

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGIONS II, III, IV, and V

IN THE MATTER OF:

COLUMBIA GAS PIPELINE

**Columbia Gas Transmission
Corporation,**

Respondent

Proceeding Under Sections 104,
106(a), and 122(a) of the
Comprehensive Environmental
Response, Compensation, and
Liability Act of 1980, as amended
by the Superfund Amendments and
Reauthorization Act of 1986,
42 U.S.C. §§ 9604, 9606(a),
and 9622(a)

Docket No.
III-94-35-DC

ADMINISTRATIVE ORDER BY CONSENT FOR REMOVAL ACTIONS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGIONS II, III, IV, and V

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COLUMBIA GAS PIPELINE	:	
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Corporation,	:	Docket No.
	:	
Respondent	:	III-94-35-DC
	:	
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106(a), and 122(a) of the	:	
Comprehensive Environmental	:	
Response, Compensation, and	:	
Liability Act of 1980, as amended	:	
by the Superfund Amendments and	:	
Reauthorization Act of 1986,	:	
42 U.S.C. §§ 9604, 9606(a),	:	
and 9622(a)	:	
	:	

ADMINISTRATIVE ORDER ON CONSENT
FOR REMOVAL ACTIONS

The parties to this Administrative Order on Consent ["Consent Order"], Columbia Gas Transmission Corporation ["Respondent"] and the United States Environmental Protection Agency ["EPA"], having agreed to the entry of this Consent Order, it is therefore Ordered, that:

I. JURISDICTION/GENERAL PROVISIONS/DEFINITIONS

- 1.1 This Consent Order is issued pursuant to the authority vested in the President of the United States by sections 104, 106(a), and 122(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 ["CERCLA"], 42 U.S.C. §§ 9604, 9606(a), and 9622(a), delegated to the Administrator of EPA by Executive Order No. 12580, 52 Fed. Reg. 2923 (January 29, 1987), and further delegated to the Regional Administrators of EPA. This Consent Order pertains to numerous properties associated with Respondent's natural gas pipeline system in Ohio, Kentucky, Pennsylvania, Virginia, West Virginia, New York, North Carolina, Maryland, New Jersey, and Delaware. For purposes of this Consent Order, the relevant properties will hereinafter be referred to as the "Site" and are further identified in Section 3.3 of this Consent Order.

- 1.2 This Consent Order is entered into by EPA and by Respondent, a Debtor in Possession. Except as expressly provided in Section 24.1 of this Consent Order, Respondent's obligations under this Consent Order are conditioned upon a grant of authority to Respondent by the United States Bankruptcy Court for the District of Delaware (Case No. 91-804). The Order of the United States Bankruptcy Court granting Respondent such authority will be appended hereto as Appendix A to this Consent Order.
- 1.3 The Respondent agrees to undertake all actions required by, and comply with all requirements of, this Consent Order, including any modifications hereto.
- 1.4 All work performed pursuant to this Consent Order must be consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, as amended ["NCP"], 40 C.F.R. Part 300.
- 1.5 The Respondent consents to and will not contest EPA's authority or jurisdiction to issue or to enforce this Consent Order. Respondent further agrees that it will not contest the basis or validity of this Consent Order or its terms.
- 1.6 Definitions. Unless otherwise expressly provided herein, terms used in this Consent Order which are defined in CERCLA or the NCP shall have the meaning assigned to them in CERCLA or the NCP. Whenever the terms identified below are used in this Consent Order or in any appendix attached hereto, the following definitions shall apply:
 - (a) "Business Days" shall mean every day of the week except Saturdays, Sundays and federal holidays.
 - (b) "Calendar Days" shall mean every day of the week, including Saturdays, Sundays and federal holidays.
 - (c) "Days" shall mean "calendar days" unless specified otherwise.
 - (d) "Columbia Gas Pipeline Site" or "Site" shall mean those locations described in Section 3.3 of this Consent Order.
 - (e) "Characterization Report" shall mean the report to be submitted for EPA approval for each location included in the Work Scope List pursuant to Section 8.6 of this Consent Order.
 - (f) "Characterization Work Plan" or "CWP" shall mean the plan, developed pursuant to Section 8.6(b) of this Consent Order, which describes the manner in which each

and every Characterization Report required by this Consent Order will be prepared.

- (g) "EPA" shall mean Regions II, III, IV, and V of the United States Environmental Protection Agency. EPA Region III shall act for EPA in all matters regarding this Consent Order.
- (h) "Response Action Work Plan" or "RAWP" shall mean the plan, developed pursuant to Section 8.8(b) of this Consent Order, which describes the manner in which the response action selected by EPA for implementation under this Consent Order at a particular location included in the Work Scope List will be performed.
- (i) "Work Scope List" shall mean the EPA-approved list, developed pursuant to Section 8.2 of this Consent Order, of locations within the Columbia Gas Pipeline Site for which Characterization Reports must be submitted for EPA approval and, where appropriate, response actions selected by EPA must be performed by Respondent.

II. STATEMENT OF PURPOSE

- 2.1 In entering into this Consent Order, the mutual objectives of EPA and Respondent are to conduct removal actions, as defined in section 101(23) of CERCLA, 42 U.S.C. § 9601(23), to abate, mitigate, and/or eliminate the release, or threat of release, of hazardous substances, pollutants, and contaminants at the Site by (a) characterizing the nature and extent of such hazardous substances, pollutants, and contaminants, and (b) performing such actions as EPA deems necessary to prevent actual and threatened releases of such hazardous substances, pollutants, and contaminants into the environment from the Site.
- 2.2 Respondent operates an interstate natural gas pipeline system subject to the jurisdiction of the Federal Energy Regulatory Commission under the Natural Gas Act, 15 U.S.C. § 717 et seq., and maintains that it has various public service responsibilities and commitments pursuant to this statute. Subject to EPA approval, Respondent intends to conduct the work required by this Consent Order in a manner that will avoid impeding its ability to operate and maintain its pipeline system in the normal course of its business and avoid interruption or diminishment of its operational ability to deliver natural gas to its customers, and enable it to continue or expand its normal business operations to meet its operational and contractual requirements through actions including, without limitation, installation of new pipelines; operation and

maintenance; repair, removal, or replacement of pipe and equipment; and other activities related to operation of the pipeline system. Notwithstanding the above, nothing in this provision shall relieve Respondent from performing any action required by this Consent Order.

III. EPA'S FINDINGS OF FACT

Columbia Gas Pipeline & the Columbia Gas Pipeline Site

- 3.1 Respondent Columbia Gas Transmission Corporation is a corporation incorporated under the laws of the State of Delaware.
- 3.2 Respondent and/or its predecessors have operated a natural gas pipeline system in the northeastern quadrant of the United States since the 1890's. Respondent currently operates approximately 19,000 miles of pipeline and approximately 225 active or retired compressor stations in Pennsylvania, New York, North Carolina, New Jersey, Maryland, Kentucky, Ohio, Virginia, West Virginia, and Delaware. Respondent's pipeline is interconnected with other natural gas transmission pipelines and has been used in the past to transport natural gas owned by other companies as well as natural gas owned by Respondent.
- 3.3 (a) For purposes of this Consent Order, the Columbia Gas Pipeline Site includes all locations described in this subparagraph that are further described in subparagraph (b):
 - (1) the natural gas pipeline;
 - (2) compressor stations, including compressed air systems;
 - (3) liquid removal points along the natural gas pipeline system (i.e., all locations where pipeline liquids are removed);
 - (4) current and former mercury metering stations;
 - (5) storage wells and related operations;
 - (6) natural gas flare sites;
 - (7) drum storage areas;
 - (8) vent stacks;

- (9) maintenance facilities;
 - (10) lubricating oil storage tanks, including loading and unloading areas;
 - (11) natural gas scrubbers;
 - (12) electrical equipment that has at any time been filled with oil;
 - (13) roads that were or may have been sprayed with oil for dust suppression;
 - (14) fence lines that were or may have been sprayed with oil for weed control; and
 - (15) other locations not described in (1) - (14), above.
- (b) For purposes of this Consent Order, the Columbia Gas Pipeline Site consists of all locations described in subparagraph (a) of this Section that are:
- (1) presently owned or operated by Respondent in Pennsylvania, New York, North Carolina, New Jersey, Maryland, Kentucky, Ohio, Virginia, West Virginia and Delaware, and
 - (2) are required to be identified by Respondent pursuant to Section 8.2 of this Consent Order.
- (c) For purposes of this Consent Order, Respondent maintains that its past operating practices as hereinafter described were consistent with industry practices at the time of their occurrence.

*Natural Gas Compressors, Liquid Removal Points,
Storage Tanks, and Trash Disposal/Burn Areas*

- 3.4 Natural gas compressors are and have been used in Respondent's pipeline to increase pressure within the pipeline to facilitate transportation of natural gas to Respondent's customers.
- 3.5 Lubricating oil is and has been used in natural gas compressors at Respondent's pipeline as well as at other pipelines to which Respondent's pipeline is connected. During the course of ordinary operation of the pipeline, lubricating oil has migrated into Respondent's pipeline.
- 3.6 Prior to 1976, polychlorinated biphenyls (PCBs) were widely used by industry in lubricating oils for electrical equipment and hydraulic systems. PCBs were used as insulating fluids

because of their exceptional heat transfer characteristics.

- 3.7 Portions of Respondent's pipeline, including natural gas compressors, have become contaminated with PCBs. Respondent maintains that these PCBs have been introduced into its pipeline system as a result of interconnections with natural gas transmission pipelines of other companies that used lubricating oil containing PCBs. Respondent maintains that it did not use PCB lubricating oils in its natural gas compressors.
- 3.8 As a result of normal pressure and temperature changes within Respondent's pipeline, constituents contained in natural gas can condense into a liquid form within the pipeline. This liquid, or condensate, may contain, among other things, benzene, toluene, and xylene. The condensate may additionally contain PCB-contaminated lubricants that have entered the pipeline. Condensates must be removed to avoid damage to the gas compressors.
- 3.9 Condensate is and has been removed from Respondent's pipeline through numerous liquid removal points at various locations along the pipeline system. The most common type of liquid removal point consists of a liquid trap attached to the pipeline and a length of small-diameter pipe with an above-ground valve. Respondent's pipeline includes approximately 15,000 liquid removal points where condensates are currently being removed or were removed in the past.
- 3.10 An unknown volume of condensate, including PCB-contaminated condensate, removed from Respondent's pipeline was disposed by Respondent onto the ground at liquid removal points at various locations along the pipeline system. As a result of this practice, an unknown volume of soils at one or more locations along the pipeline system has likely become contaminated with, among other things, PCBs, benzene, toluene, and xylene.
- 3.11 An unknown volume of condensate, including PCB-contaminated condensate, removed from Respondent's pipeline was stored by Respondent in aboveground and underground storage tanks at various locations along the pipeline system. As a result of spillage and leakage of such condensate during handling, an unknown volume of soils at one or more locations along the pipeline system in the vicinity of these aboveground and underground storage tanks has become contaminated with, among other things, PCBs, benzene, toluene, and xylene.
- 3.12 An unknown volume of condensate, including PCB-contaminated condensate, removed from Respondent's pipeline was disposed of by Respondent in trash disposal and burn areas at one or more locations along the pipeline system. As a result of this

practice, an unknown volume of soils in the vicinity of certain of these trash disposal and burn areas has become contaminated with, among other things, PCBs, benzene, toluene, and xylene.

Air Compressors

- 3.13 Air compressor systems are and have been used at Respondent's pipeline to supply starting and instrument air to control valves, switches, and other devices. Lubricating oil is and was used in these air compressor systems. In the past, Respondent used lubricating oil containing PCBs in a number of such air compressors.
- 3.14 During Respondent's ordinary operation of a number of the air compressor systems, PCB-contaminated lubricating oil migrated into air receiving tanks together with condensed water vapor and compressed air. This liquid was removed from the air receiving tanks by Respondent from time to time through drainage valves located underneath the tanks. An unknown quantity of liquid, including PCB-contaminated oil, was released from air compressor systems at various locations along Respondent's pipeline system directly onto the ground by Respondent. This activity has caused an unknown volume of soil in the vicinity of some of Respondent's air compressor systems to become contaminated with PCBs.

Mercury-Filled Instruments

- 3.15 There are approximately 3,000 locations along Respondent's pipeline where mercury-filled metering devices are or were used to measure pipeline flow and pressure. Routine maintenance activities performed on these devices has resulted in drips and spills of mercury from a number of these devices onto the ground in the vicinity of these devices. An unknown volume of soil in the vicinity of a number of these instruments has become contaminated with mercury.

Previous Site Assessments

- 3.16 Respondent has commenced assessments at numerous active and former compressor stations and other locations along its pipeline in several states. These assessments, some of which have been performed under agreement with states in which the stations are located, are intended to characterize the extent of contamination along Respondent's pipeline. Respondent has provided EPA with numerous assessments of such locations. Respondent believes these assessments are representative of many locations to be included within the EPA-approved Work Scope List described in Section 8.2 of this Consent Order and that similar contamination will likely be found at various

concentrations at many of the locations included in that list. Assessments provided to EPA by Respondent reveal, among other things, the following:

- (a) **Downingtown Compressor Station (PA - 1992 Data)** - PCBs at 21.25 and 84.5 ppm were discovered in soil samples in Surplus Material Storage Area #2. Mercury at 14 ppm was discovered in a soil sample in the Meter Building. In addition, Petroleum Hydrocarbon contamination and low level PCB contamination was found in soils in other areas of the station.
- (b) **Donegal Compressor Station (PA - 1992 Data)** - Mercury at levels of 150 ppm and 1100 ppm was discovered in the soil at the entrances to the Meter Building. Petroleum Hydrocarbons were found in the North and South Former Disposal Pits and PCBs were found at 0.24 ppm in the North Former Disposal Pit. According to the assessment, the Respondent's on-site geologist noticed a strong petroleum odor at the 8 foot depth in the South Pit.
- (c) **Boldman Compressor Station (KY - 1989 Data)** - PCBs at 20,500 ppm were discovered in the pipe chase of the auxiliary building. Outdoor soil samples showed PCBs at 39 ppm. The facility also used PCBs in the air compressor systems above 50 ppm and this use has resulted in instances of surface contamination in the auxiliary building and soil contamination near the air receiver tanks.
- (d) **Gala Compressor Station (VA - 1991 Data)** - PCBs at 235,000 ppm were discovered in the soil in a pit where the air compressor systems were blown down. The assessment claims these compressors (which were contaminated with PCBs) were blown down to the ground every three to four hours. PCBs at 76.5 ppm were discovered in the sediment of the auxiliary building sump.
- (e) **Guernsey Compressor Station (OH - 1991 Data)** - Sampling at the station indicated PCBs at levels of 210,000 ppm in the soil in the engine room sump drainage area. PCBs at 1,020 ppm were also discovered in soil near a drain pipe discharge. The soil beneath the air compressor blowdown showed 1,090 ppm PCBs, and a soil sample in the waste oil storage tank showed 454 ppm.
- (f) **Wellington Compressor Station (OH - 1991 Data)** - Sediment samples in the sumps of the Main and Auxiliary Buildings showed PCB levels of 28 ppm, 14,300 ppm and 95,500 ppm. Soil samples in the areas of the air compressor blowdowns

showed 174 ppm and 11,300 ppm PCBs. A soil sample near a drainline overflow showed 13 ppm PCBs.

- (g) **Terra Alta Compressor Station (WV - 1991 Data)** - Sediment samples in the sumps of the compressor and auxiliary buildings showed PCB levels of 16,500 ppm and 5,200 ppm. Soil samples adjacent to the Cistern and the gas compressor exhaust vents showed PCB levels of 46,500 ppm and 33,200 ppm.
- (h) **Cleveland Compressor Station (WV - 1990 Data)** - Sampling at the station indicated PCBs in use in an air compressor at levels above 50 ppm. Soil samples in the auxiliary building showed PCB levels of 1120 ppm to 8500 ppm. Other outdoor soil samples showed PCB levels of 29 ppm, 34 ppm, 148 ppm, 219 ppm, and 631 ppm.
- (i) **Flat Top Compressor Station (WV - 1992 Data)** - Sampling at the station indicated PCBs in use in two air compressors at levels of 2.8 ppm and 1.1 ppm. Liquids in the Air Receiver Tanks had PCBs at 162 ppm and 108 ppm. PCBs were also found at 556 ppm and 17,500 ppm in the auxiliary building pipe chase. PCBs were found at 55,900 ppm and 99,500 ppm in the soil below both Air Receiver Tanks. PCBs were found at 261 ppm, 11 ppm, 300 ppm, and 16 ppm in the soil/sediment near the pond area. PCBs were found in the marsh area in soil at 520 ppm. Historical use of a Burn Pit was reported. Soil samples provided the following:
- 2 to 3' depth - 7 ppm
 - 3 to 4' depth - 2 ppm and 46 ppm
 - 4 to 5' depth - 4 ppm
 - 5 to 6' depth - < 2 ppm
 - 6 to 7' depth - 690 ppm
 - 7 to 8' depth - 44 ppm
 - 8 to 9' depth - 20 ppm
- (j) **South Point Compressor Station (RETIRED) (OH - 1991 and 1992 Data)** - Assessment stated that the facility was decommissioned in 1976. Two burn pits and three Underground Storage Tanks were used at the site and remain there. The two burn pits (4' x 10' x 3' deep) were used to incinerate waste oil, oil soaked trash, general garbage, and pipeline fluids. Respondent discontinued use of these burn pits in the late 1960's. Wipe samples detected PCBs on surfaces in the Auxiliary building. Floor drain sediment showed 142 ppm PCBs. In the outdoor areas, soil samples showed PCBs at the following levels: 0.51 ppm near 2000 gal UST, 31.7 ppm near old Air Receiver Tank, 6.43 ppm near former

scrubber, 17.6 ppm near former drum storage area, and 28,200 ppm near former burn pit.

- 3.17 Benzene, toluene, xylene, mercury, and PCBs are hazardous substances that may have adverse effects on human health and the environment and are listed at 40 C.F.R. § 302.4.
- 3.18 Based on the information set forth in this Section, EPA hereby determines that a threat to public health, welfare, and the environment exists due to the actual or threatened release of hazardous substances, pollutants, or contaminants into the environment from the compressor stations identified in Section 3.14 of this Consent Order. EPA hereby additionally determines that the actual and/or threatened release of hazardous substances from the compressor stations identified in Section 3.16 and the Columbia Gas Pipeline Site may present an imminent and substantial endangerment to the public health or welfare or the environment.

IV. CONCLUSIONS OF LAW

- 4.1 For purposes of this Consent Order, the Columbia Gas Pipeline Site is a "facility" as defined by section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
- 4.2 The Respondent is a "person" as defined by section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- 4.3 PCBs, mercury, benzene, toluene, and xylene are hazardous substances within the meaning of section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and are listed at 40 C.F.R. § 302.4.
- 4.4 "Hazardous substances," as defined in section 101(14) of CERCLA, 42 U.S.C. § 9601(14), have been disposed of at various locations along the Site and are currently present there.
- 4.5 The presence of hazardous substances at various locations along the Site and the past, present, and/or potential migration of hazardous substances from the Site constitutes an actual and/or threatened "release" as defined in section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
- 4.6 Respondent is an "owner" and/or "operator" of a "vessel or a facility" (the Site) within the meaning of section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1), from which there is a release and/or a threat of a release of hazardous substances into the environment within the meaning of section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

V. DETERMINATIONS

Based on the Findings of Fact and Conclusions of Law set forth above, and upon EPA's review of information, including that furnished by Respondent, EPA has determined that:

- 5.1 The actual and/or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health or welfare or the environment.
- 5.2 The work required by this Consent Order is necessary to protect the public health and welfare and the environment.
- 5.3 Because there is a threat to public health or welfare or the environment, a removal action is appropriate to abate, minimize, stabilize, mitigate, or eliminate the release or threat of release of hazardous substances at or from the Site.

VI. PARTIES BOUND

- 6.1 This Consent Order shall apply to and be binding upon EPA and its successors and agents, and upon Respondent and its agents, successors, and assigns. Neither a change in ownership or corporate or partnership status of the Respondent, nor a change in ownership or control of all or any portion of the Site, shall in any way alter Respondent's responsibilities under this Consent Order.
- 6.2 In the event of any change in ownership or control of the real property, or of any temporary building or structure, or portion thereof, included on the Work Scope List developed pursuant to Section VIII of this Consent Order or removed from the Work Scope List pursuant to Section 8.7 of this Consent Order, Respondent shall notify EPA in writing at least thirty (30) calendar days in advance of such change and shall provide a copy of this Consent Order to the transferee in interest of such property prior to any agreement for transfer.
- 6.3 The Respondent shall provide a copy of this Consent Order to all contractors, laboratories, and consultants retained by Respondent to conduct any portion of the work to be performed by Respondent pursuant to this Consent Order. Respondent shall require in any and all contracts related to this Site that the work that is the subject of such contract be performed within the time and in the manner set forth in this Consent Order.
- 6.4 The undersigned representative of Respondent certifies that he or she is fully authorized to enter into the terms of this

Consent Order and to execute and legally bind Respondent to this Consent Order.

VII. NOTICE TO THE STATES

- 7.1 Notice of issuance of this Consent Order has been given by EPA to the Commonwealths of Pennsylvania, Virginia, and Kentucky, and the States of New York, North Carolina, New Jersey, Maryland, Ohio, West Virginia and Delaware pursuant to section 105(a) of CERCLA, 42 U.S.C. § 9606(a).

VIII. WORK TO BE PERFORMED

- 8.1 Respondent shall commence and complete performance of the following work as specified herein. Respondent and EPA presently anticipate, subject to EPA approval of schedules and plans to be submitted pursuant to this Consent Order, that the work to be performed under this Section VIII may require approximately twelve years from the effective date of this Consent Order to complete. Respondent presently estimates that such work will entail expenditures of approximately \$15 million to \$20 million annually.

8.2 Delineation of Work Scope.

- (a) For purposes of this Consent Order, the Columbia Gas Pipeline Site shall include all locations which are required to be identified by Respondent pursuant to this Section. Respondent may voluntarily recommend for EPA approval other locations to be included.
- (b) Within thirty (30) days after the effective date of this Consent Order, Respondent shall submit to EPA for approval in accordance with Section IX of this Consent Order a list of all locations identified in Section 3.3(a) of this Consent Order which are required herein to be identified under this Consent Order. Respondent may identify specific locations by address or by delineating categories (e.g., all liquid removal points within the Commonwealth of Pennsylvania). Respondent is required to identify in such list the following:
- (1) all compressor stations identified in Section 3.16 of this Consent Order, as well as all compressor stations, liquid removal points, current and former mercury metering stations, and other locations identified in Section 3.3(a) of this Consent Order where Respondent has documented the release or threatened release of hazardous substances, pol-

lutants, or contaminants into the environment through data collection efforts commenced prior to the effective date of this Consent Order; and

- (2) all compressor stations, liquid removal points, current and former mercury metering stations, and other locations identified in Section 3.3(a) of this Consent Order where Respondent has reason to believe that hazardous substances, pollutants, or contaminants have been, or may be, released into the environment.

For purposes of Paragraph (b)(1) of this Section, documentation of a release or threatened release of hazardous substances, pollutants, or contaminants into the environment shall be presumed if Respondent has documented contamination at or above levels identified for the appropriate category (e.g., worker soil ingestion, resident soil ingestion) in the removal guidelines appended hereto as Appendix B of this Consent Order, but shall not be limited to such instances. For each location that Respondent does not identify for inclusion under this Consent Order because it has documented contamination above detection limits but below the levels corresponding to the Appendix B category used in its evaluation, Respondent shall identify and justify the category used. In the event EPA determines that Respondent's selection of an Appendix B category was inappropriate for a particular location, EPA may require that Respondent use a different category in evaluating such location for inclusion under this Consent Order.

- (c) The list submitted pursuant to Section 8.2(b) which is approved by EPA shall be referred to as the "Work Scope List" and shall be enforceable under the terms of this Consent Order. Approval by EPA of the Work Scope List shall not constitute a waiver of EPA's rights, including the right to seek penalties and to otherwise enforce this Consent Order, for Respondent's failure to identify a location identified in Section 3.3(a) of this Consent Order where Respondent has either documented the release or threatened release of hazardous substances, pollutants, or contaminants into the environment or has reason to believe such a release or threatened release may exist.
- (d) EPA and Respondent may modify the Work Scope List at any time. Any such modification shall be in writing, shall be signed by the Project Coordinators for EPA and Respondent, and shall have as its effective date the date on which such modification is signed by the EPA Project

Coordinator.

- 8.3 Use of Existing Data. Data or information collected prior to the effective date of this Consent Order may be submitted by Respondent in an effort to satisfy any requirement of this Consent Order. Any such data or information shall be certified in accordance with Section 8.12 of this Consent Order. EPA reserves the right to disapprove any document submitted or work performed under this Consent Order if, among other reasons, EPA determines, in its sole discretion, that (1) the document or work relied in any way on data or information collected prior to the effective date of this Consent Order, and (2) that such data or information is invalid, inaccurate, incomplete, or otherwise deficient. In any such event, the data may be supplemented, augmented, or otherwise amended in accordance with procedures agreed to by Respondent and EPA.
- 8.4 Passive Screening Assessments (Based on Existing Data).
- (a) Within one hundred and eighty (180) days after EPA has approved the Work Scope List, Respondent shall provide to EPA for approval an assessment, based on information and data obtained prior to the effective date of this Consent Order, of each location, or group of locations as specified in paragraph (c) of this Section, identified in the Work Scope List for which Respondent contends that no further investigation or cleanup is warranted under this Consent Order. Each assessment shall be certified in accordance with Section 8.12 of this Consent Order. Respondent shall not submit an assessment under this Section for any location where Respondent has documented contamination at or above the removal guidelines set forth for the appropriate category in Appendix B of this Consent Order and taken no action to respond to such contamination.
 - (b) EPA will determine, based on each such submission, whether further investigation or cleanup under this Consent Order is warranted for each location, or group of locations, identified by Respondent pursuant to Section 8.4(a) of this Consent Order. In the event EPA agrees that a particular location or group does not warrant further investigation or cleanup under this Consent Order, such location or group will be removed from the Work Scope List and Respondent shall not be obligated by this Consent Order to take any further action with respect to such location or group.
 - (c) For purposes of this Section 8.4, Respondent may group two or more liquid removal points in an assessment, two or more mercury metering stations in an assessment, and

two or more storage well locations in an assessment, provided that Respondent identifies the methodology and rationale used in grouping such locations together. Respondent may not group any other locations for purposes of complying with this Section. EPA reserves the right to disapprove any grouping.

8.5 Active Screening Assessments (For Liquid Removal Points, Mercury Metering Stations, and Storage Well Locations).

- (a) Respondent shall submit to EPA for approval an Active Screening Assessment Report for each liquid removal point (or group of liquid removal points), current and former mercury metering station (or group of stations), and storage well location (or group of storage well locations) on the Work Scope List, and which is not removed from the Work Scope List by EPA pursuant to Section 8.4 of this Consent Order, for which Respondent contends that no further investigation or cleanup is warranted under this Consent Order. Each such Active Screening Assessment Report shall be prepared within the time and in the manner set forth in this Section. Respondent may group two or more liquid removal points in a report, two or more mercury metering stations in a report, and two or more storage well locations in a report, provided that Respondent identifies the methodology and rationale used in grouping such locations together. EPA reserves the right to disapprove any such grouping. Respondent anticipates that completion of all work required by this Section 8.5 will require approximately eighteen (18) months from the effective date of this Consent Order.

(b) Active Screening Assessment Work Plan.

- (1) Contractor Selection. Within seven (7) days of the effective date of this Consent Order, Respondent shall notify EPA in writing of the identity and qualifications of the contractor selected by Respondent to prepare the Active Screening Assessment Work Plan ["ASAWP"]. EPA will notify Respondent in writing of EPA's acceptance or disapproval of Respondent's selected contractor as soon as practicable following receipt of Respondent's selection. In the event EPA disapproves Respondent's selection, Respondent shall, within seven (7) days of its receipt of such notice, notify EPA of the identity and qualifications of the contractor who will replace the contractor that has been disapproved by EPA. Acceptance/disapproval of Respondent's selected replacement contractor(s) shall be governed by the preceding two sentences. Respon-

dent shall additionally notify EPA of the identity and qualifications of any additional contractors and all subcontractors and supervisory personnel that will be used to prepare the ASAWP not less than seven (7) days before any such contractor, subcontractor, or supervisory personnel is scheduled to perform such work. EPA may at any time disapprove the use of any contractor, subcontractor, or supervisory personnel EPA considers to be unqualified or otherwise unable to perform the work, or to continue to perform the work, required by this Consent Order. In the event of any such disapproval, Respondent shall, within seven (7) days following receipt of such notice, notify EPA of the identity and qualifications of the contractor, subcontractor, or supervisory personnel that will replace the one(s) EPA has disapproved.

- (2) Active Screening Assessment Work Plan Development. Within sixty (60) days following EPA acceptance of the contractor who will prepare the ASAWP, Respondent shall submit for EPA approval an ASAWP that sets forth the manner in which Respondent will assess each location, or group of locations, for which Respondent contends that no further investigation or cleanup is warranted under this Consent Order. The ASAWP shall include, but shall not be limited to:
- (a) the methodology and rationale that will be used by Respondent to group liquid removal points, current and former mercury metering stations, and storage well locations for purposes of preparing Active Screening Assessment Reports;
 - (b) a strategy for collection of the data (including visual observation at each and every individual location to be included within the Active Screening Assessment Report and sampling data) to be included in the Active Screening Assessment Reports and for identification of all ecological zones and receptors actually or potentially affected by contamination at each location, or group of locations, and the laboratory testing methods to be used to evaluate impacts to biological systems;
 - (c) a general sampling and analysis plan (including a Field Sampling Plan, a Quality Assurance Project Plan, and a plan to sample all

drinking water wells that are potentially impacted by contamination at each location) that (1) describes the manner in which Respondent will obtain data for each liquid removal point, mercury metering station, and storage well location that will be sampled (e.g., sampling techniques and analytical methodologies), and (2) provides a protocol for addressing unique conditions not covered by the general plan;

- (d) a health and safety plan to protect the health and safety of workers, other personnel, and the public from the hazardous substances and work-related health and safety hazards during performance of the work required by this Consent Order and which provides for proper decontamination of personnel and equipment, monitoring and control of off-site migration of hazardous substances from the Site, and protection of public health from overexposure to hazardous substances during the performance of activities at the Site pursuant to this Consent Order. Applicable sections of the plan shall be at least as stringent as the Occupational Safety and Health Administration and EPA requirements including those set forth in 29 C.F.R. § 1910.120;
- (e) a preliminary listing and discussion of applicable and relevant and appropriate requirements ["ARARs"]; other advisories, criteria, and guidance to be considered pursuant to section 300.400(g)(3) of the NCP, 40 C.F.R. § 300.400(g)(3) ["TBCs"]; and such other Federal and State cleanup standards as may be applicable at the time; and
- (f) a schedule for expeditious completion of an Active Screening Assessment Report for each location, or group of locations, Respondent seeks to eliminate from the Work Scope List under this Section.

(c) Active Screening Assessment Work Plan Implementation.

- (1) Contractor Selection. Within seven (7) days of EPA approval of all or a discrete portion of the ASAWP, Respondent shall notify EPA in writing of the identity and qualifications of the contractor selected by Respondent to implement the ASAWP. EPA will

notify Respondent in writing of EPA's acceptance or disapproval of Respondent's selected contractor as soon as practicable following receipt of Respondent's selection. In the event EPA disapproves Respondent's selection, Respondent shall, within seven (7) days of its receipt of such notice, notify EPA of the identity and qualifications of the contractor who will replace the contractor that has been disapproved by EPA. Acceptance/disapproval of Respondent's selected replacement contractor(s) shall be governed by the preceding two sentences. Respondent shall additionally notify EPA of the identity and qualifications of any additional contractors and all subcontractors and supervisory personnel that will be used to implement the ASAWP not less than seven (7) days before any such contractor, subcontractor, or supervisory personnel is scheduled to perform such work. EPA may at any time disapprove the use of any contractor, subcontractor, or supervisory personnel EPA considers to be unqualified or otherwise unable to perform the work, or to continue to perform the work, required by this Consent Order. In the event of any such disapproval, Respondent shall, within seven (7) days following receipt of such notice, notify EPA of the identity and qualifications of the contractor, subcontractor, or supervisory personnel that will replace the one(s) EPA has disapproved.

- (2) Within seven (7) days following EPA acceptance of the contractor who will implement the ASAWP, Respondent shall commence implementation of the ASAWP and shall complete implementation of the ASAWP according to its approved terms, conditions, and schedules. For each location, or group of locations, included on the approved Work Scope List for which Respondent contends no further investigation or cleanup is warranted under this Consent Order, Respondent shall submit to EPA for approval an Active Screening Assessment Report that includes, but is not limited to, the following:
 - (a) map(s) which identify the location of all liquid removal points, mercury metering stations, and storage well locations included in the Report as well as topographic features in and around such locations;
 - (b) photographs showing the layout of each liquid removal point, mercury metering station, and

storage well location included in the Report;

- (c) a description of each liquid removal point, mercury metering station, and storage well location where Respondent's visual inspection or sampling efforts revealed actual or potential contamination, noting, among other things, all affected ecological zones and receptors, soil discoloration, stressed vegetation, petroleum odor, and visible oil and/or grease;
 - (d) photographs showing all visual evidence of potential contamination (including, but not limited to, soil discoloration, stressed vegetation, and visible oil and/or grease) found by Respondent at each liquid removal point, mercury metering station, and storage well location included in the Report;
 - (e) all chemical concentration data collected during sampling performed pursuant to this Consent Order (including data collection methods, maps of sample locations, summary data tables, and a copy of chemical data in a computer-readable format) and any data obtained prior to the effective date of this Consent Order; and
 - (f) copies of all hazardous waste manifests (including copies of all hazardous waste manifests signed upon receipt of the hazardous wastes by a licensed treatment, storage, or disposal facility) pertaining to all hazardous wastes shipped in the course of preparing the Report, if any.
- (ci) EPA will determine, based on each Active Screening Assessment Report, whether further investigation or cleanup under this Consent Order is warranted for each location, or group of locations, covered by such report. In the event EPA agrees that a particular location or group does not warrant further investigation or cleanup under this Consent Order, such location or group will be removed from the Work Scope List and Respondent shall not be obligated by this Consent Order to take any further action with respect to such location or group. For each location or group for which EPA concludes that further investigation or cleanup under this Consent Order is warranted, Respondent shall prepare a Characterization Report pursuant to Section 8.6 of this Consent Order.

8.6 Characterization.

- (a) Respondent shall characterize the nature and extent of contamination at each location included in the approved Work Scope List, and which is not removed from the Work Scope List by EPA pursuant to Sections 8.4 and 8.5 of this Consent Order, and shall develop recommendations for cleanup of such contamination, in accordance with this Section.
- (b) Characterization Work Plan.
 - (1) Contractor Selection. Within seven (7) days of the effective date of this Consent Order, Respondent shall notify EPA in writing of the identity and qualifications of the contractor selected by Respondent to prepare the Characterization Work Plan ["CWP"]. EPA will notify Respondent in writing of EPA's acceptance or disapproval of Respondent's selected contractor as soon as practicable following receipt of Respondent's selection. In the event EPA disapproves Respondent's selection, Respondent shall, within seven (7) days of its receipt of such notice, notify EPA of the identity and qualifications of the contractor who will replace the contractor that has been disapproved by EPA. Acceptance/disapproval of Respondent's selected replacement contractor(s) shall be governed by the preceding two sentences. Respondent shall additionally notify EPA of the identity and qualifications of any additional contractors and all subcontractors and supervisory personnel that will be used to prepare the CWP not less than seven (7) days before any such contractor, subcontractor, or supervisory personnel is scheduled to perform such work. EPA may at any time disapprove the use of any contractor, subcontractor, or supervisory personnel EPA considers to be unqualified or otherwise unable to perform the work, or to continue to perform the work, required by this Consent Order. In the event of any such disapproval, Respondent shall, within seven (7) days following receipt of such notice, notify EPA of the identity and qualifications of the contractor, subcontractor, or supervisory personnel that will replace the one(s) EPA has disapproved.
 - (2) Characterization Work Plan Development. Within ninety (90) days following EPA acceptance of the contractor who will prepare the CWP, Respondent shall submit to EPA for approval a CWP that sets

forth the manner in which Respondent will (i) characterize the nature and extent of contamination at all locations included in the Work Scope List approved by EPA, and (ii) develop recommendations for response actions to abate threats to public health and welfare and the environment presented by such contamination. Respondent may submit data obtained for purposes of preparing an Active Screening Assessment Report in an effort to satisfy the requirement to characterize the nature and extent of contamination at any location. The CWP must be consistent with CERCLA, the NCP, and with all relevant EPA guidance and regulations. The CWP shall include, but not be limited to:

- (a) methodologies and logistics for obtaining information in order to meet the objectives of the characterizations;
- (b) data quality objectives;
- (c) for liquid removal points, mercury metering stations, and storage well locations, a general sampling and analysis plan (including a Field Sampling Plan, a Quality Assurance Project Plan, and a plan to sample all drinking water wells that are potentially impacted by contamination at each location) that (1) describes the manner in which Respondent will obtain data for each liquid removal point, mercury metering station, and storage well location that will be sampled (e.g., sampling techniques and analytical methodologies), and (2) provides a protocol for addressing unique conditions not covered by the general plan;
- (d) a schedule for submission of location-specific sampling and analysis plans (including Field Sampling Plans, Quality Assurance Project Plan, and plans to sample all drinking water wells that are potentially impacted by contamination at each location) which describes the manner in which Respondent will obtain data for each compressor station and each of the other locations included on the Work Scope List except liquid removal points, mercury metering stations, and storage well locations. Respondent shall commence to characterize during the first year following approval of the CWP (this schedule is to be updated in

accordance with Section 8.9(g) of this Consent Order);

- (e) a health and safety plan to protect the health and safety of workers, other personnel, and the public from the hazardous substances and work-related health and safety hazards during performance of the work required by this Consent Order and which provides for proper decontamination of personnel and equipment, monitoring and control of off-site migration of hazardous substances from the Site, and protection of public health from overexposure to hazardous substances during the performance of activities at the Site pursuant to this Consent Order. Applicable sections of the plan shall be at least as stringent as the Occupational Safety and Health Administration and EPA requirements including those requirements found at 29 C.F.R. § 1910.120;
- (f) a general plan for identifying and characterizing all ecological zones and receptors actually or potentially affected by contamination, and the laboratory testing methods to be used to evaluate impacts to biological systems;
- (g) a preliminary listing and discussion of applicable and relevant and appropriate requirements ["ARARs"]; other advisories, criteria, and guidance to be considered pursuant to section 300.400(g)(3) of the NCP, 40 C.F.R. § 300.400(g)(3) ["TBCs"]; and such other Federal and State cleanup standards as may be applicable at the time; and a plan for refinement of ARARs, TBCs, and other cleanup level standards throughout the characterization process, including proposed clean-up levels; and
- (h) a schedule for expeditious completion of all Characterization Reports which shall include, but not be limited to, projected start-up, delivery dates for milestone field work, written reports required by this Section, and for meetings with EPA to present progress information about the Site. In preparing this schedule, Respondent shall plan to first characterize those locations where Respondent knows or suspects contamination to be most

severe and/or where sensitive receptors are likely to be most significantly impacted.

EPA and Respondent may agree at any time to modify the CWP to permit Respondent to submit a general sampling and analysis plan for two or more compressor stations and other locations included on the Work Scope List in lieu of a location-specific plan for each such location.

(c) Characterization Work Plan Implementation.

- (1) Contractor Selection. Within seven (7) days of EPA approval of all or a discrete portion of the CWP, Respondent shall notify EPA in writing of the identity and qualifications of the contractor(s) selected by Respondent to implement the CWP. EPA will notify Respondent in writing of EPA's acceptance or disapproval of Respondent's selected contractor(s) as soon as practicable following receipt of Respondent's selection. In the event EPA disapproves Respondent's selection(s), Respondent shall, within seven (7) days of its receipt of such notice, notify EPA of the identity and qualifications of the contractor(s) who will replace the contractor(s) that have been disapproved by EPA. Acceptance/disapproval of Respondent's selected replacement contractor(s) shall be governed by the preceding two sentences. Respondent shall additionally notify EPA of the identity and qualifications of any additional contractors and all subcontractors and supervisory personnel that will be used to implement the CWP not less than seven (7) days before any such contractor, subcontractor, or supervisory personnel is scheduled to perform such work. EPA may at any time disapprove the use of any contractor, subcontractor, or supervisory personnel EPA considers to be unqualified or otherwise unable to perform the work, or to continue to perform the work, required by this Consent Order. In the event of any such disapproval, Respondent shall, within seven (7) days following receipt of such notice, notify EPA of the identity and qualifications of the contractor, subcontractor, or supervisory personnel that will replace the one(s) EPA has disapproved.
- (2) Within seven (7) days following EPA acceptance of the contractor(s) who will implement the CWP, Respondent shall commence implementation of the CWP and shall complete implementation of the CWP

according to its approved terms, conditions, and schedules. For each location included on the approved Work Scope List, Respondent shall prepare and submit to EPA for approval a Characterization Report that includes, but is not limited to, the following:

- (a) a map of the location, including the property boundary, all fence lines, significant surface impoundments (including, but not limited to, all buildings, tanks, drum storage areas, truck loading areas, pig receivers/launchers, sumps, diffuser tanks, all above-ground and known and reasonably ascertainable underground pipelines (including drainlines), debris piles, and any area of present or past disposal activity), nearby surface water, affected drinking water wells, and locations of all ground water monitoring wells. Overlay maps can be employed to show areas of potential contamination, water supplies (public and private), potentially affected mines/quarries, surrounding land use and population density, topography, and other relevant features;
- (b) A geological map showing the location in the center and surrounding land area and population density. The map should be based on United States Geological Survey 7.5 minute series topographical maps and should identify all major landmarks including, but not limited to, roads, highways, and major buildings;
- (c) a description of the location and history of operations and releases there;
- (d) a summary of previous investigations and clean-up actions at that location;
- (e) a description of the location setting (including physical setting, climate, surface water hydrology and quality, geology, soils, hydrogeology and groundwater quality, fractures and groundwater movement, and ecology) which may be obtained from published sources;
- (f) all chemical concentration data collected during sampling performed at the location, including sampling performed in accordance with the sampling plan approved by EPA for such location (including data collection

- methods, maps of sample locations, summary data tables, and a copy of chemical data in a computer-readable format);
- (g) a summary of all groundwater monitoring data obtained by Respondent from the location;
 - (h) a summary of potentially exposed populations (including locations, current land uses, alternative future land uses, activity patterns, and subpopulations of potential concern) which may be obtained from published sources;
 - (i) a description of the affected ecological zones and receptors;
 - (j) copies of all hazardous waste manifests (including copies of all hazardous waste manifests signed upon receipt of the hazardous wastes by a licensed treatment, storage, or disposal facility) pertaining to all hazardous wastes shipped in the course of preparing the Characterization Report, if any; and
 - (k) recommendations for response actions which will abate threats to public health and welfare and the environment presented by contamination at such location. Such recommendations shall include, but not be limited to, proposed cleanup levels that meet or exceed all applicable or relevant and appropriate requirements within the meaning of section 121 of CERCLA, 42 U.S.C. § 9621, or such other Federal and State cleanup standards as may be applicable; waste management options that are consistent with CERCLA and the NCP; and plans for performance of treatability studies where such studies are deemed appropriate by EPA. Respondent may, in addition, recommend groups of liquid removal points, mercury metering stations, storage well locations, and compressor stations which should be considered by EPA for concurrent response action selection pursuant to Section 8.7 of this Consent Order.

8.7 Selection of Response Actions. For each location included in the approved Work Scope List for which Respondent has submitted a Characterization Report in accordance with Section 8.6 of this Consent Order, EPA will either (a) select a

response action for implementation at such location under this Consent Order; (b) determine that such location, or a portion of such location, is more appropriately addressed under EPA's remedial response action authority or other authorities; or (c) both of the above. Where practicable, and to the extent EPA determines that such practice will not unduly delay cleanup, EPA will select response actions concurrently for liquid removal points, mercury metering stations, storage well locations, and compressor stations recommended for concurrent response action selection by Respondent. EPA reserves the right to hold public meetings, rely on public comment, and otherwise solicit public participation in selecting a response action for implementation under this Consent Order. In selecting a response action for implementation under this Consent Order, EPA shall not be limited to the action recommended by Respondent in the Characterization Report. EPA will notify Respondent of its decision in writing. Respondent shall implement all response actions selected by EPA for implementation under this Consent Order in accordance with the requirements of Section 8.8 of this Consent Order. In the event EPA determines that a location, or portion of a location, is more appropriately addressed under remedial response action authority or other authorities, that particular location, or portion of such location, shall be removed from the Work Scope List and Respondent shall not be obligated under this Consent Order to take further action at such location or portion of such location.

8.8 Implementation of Response Actions Selected by EPA for Implementation Under this Consent Order.

(a) Respondent shall perform all response actions selected by EPA for implementation under this Consent Order in accordance with this Section.

(b) Response Action Work Plan.

(1) Contractor Selection. Within thirty (30) days after EPA has selected a response action for implementation under this Consent Order at a particular location or group of locations, Respondent shall notify EPA in writing of the identity and qualifications of the contractor selected by Respondent to prepare a Response Action Work Plan ["RAWP"] for that location or group of locations. EPA will notify Respondent in writing of EPA's acceptance or disapproval of Respondent's selected contractor as soon as practicable following receipt of Respondent's selection. In the event EPA disapproves Respondent's selection, Respondent shall, within fifteen (15) days of its

receipt of such notice, notify EPA of the identity and qualifications of the contractor who will replace the contractor that has been disapproved by EPA. Acceptance/disapproval of Respondent's selected replacement contractor(s) shall be governed by the preceding two sentences. Respondent shall additionally notify EPA of the identity and qualifications of any additional contractors and all subcontractors and supervisory personnel that will be used to prepare the RAWP not less than seven (7) days before any such contractor, subcontractor, or supervisory personnel is scheduled to perform such work. EPA may at any time disapprove the use of any contractor, subcontractor, or supervisory personnel EPA considers to be unqualified or otherwise unable to perform the work, or to continue to perform the work, required by this Consent Order. In the event of any such disapproval, Respondent shall, within fifteen (15) days following receipt of such notice, notify EPA of the identity and qualifications of the contractor, subcontractor, or supervisory personnel that will replace the one(s) EPA has disapproved.

- (2) Response Action Work Plan Development. Within thirty (30) days following EPA acceptance of the contractor who will be responsible for implementing the response action selected by EPA for a particular location or group of locations, Respondent shall submit to EPA for approval a RAWP that sets forth the manner in which Respondent will perform that response action. The RAWP shall be consistent with CERCLA and the NCP and shall include, at a minimum:

- (a) a map of the location, including the property boundary, all fence lines, significant surface impoundments (including, but not limited to, all buildings, tanks, drum storage areas, truck loading areas, pig receivers/launchers, sumps, diffuser tanks, all above-ground and known and reasonably ascertainable underground pipelines (including drainlines), debris piles, and any area of present or past disposal activity), nearby surface water, affected drinking water wells, and locations of all ground water monitoring wells. Overlay maps can be employed to show areas of potential contamination, water supplies (public and private), mines/quarries, surrounding land use and population density,

topography, and other relevant features.

- (b) A geological map showing the location in the center and surrounding land area and population density. The map should be based on United States Geological Survey 7.5 minute series topographical maps and should identify all major landmarks including, but not limited to, roads, highways, and major buildings.
- (c) A description of the location and operations conducted there, and a description of the adjacent land within one thousand feet of the property boundary and its current use.
- (d) A detailed description of the response action selected by EPA to be taken at that location, and an expeditious schedule for completion of such work.
- (e) Sampling plan(s) to verify the effectiveness of the response action, with data quality objectives, and to perform any additional sampling Respondent intends to perform.

Respondent may submit maps and other information previously provided to EPA in Characterization Reports to the extent such maps and other information are accurate at the time submitted.

(c) Response Action Work Plan Implementation.

- (1) Contractor Selection. No later than thirty (30) days after EPA has approved all or a discrete portion of the RAWP for a particular location or group of locations, Respondent shall notify EPA in writing of the identity and qualifications of the contractor selected by Respondent to implement the RAWP at that location or group of locations. Respondent may propose contractor(s) to implement RAWPs at more than one location in a single notice, provided each location is identified. EPA will notify Respondent in writing of EPA's acceptance or disapproval of Respondent's selected contractor(s) as soon as practicable following receipt of Respondent's selection(s). In the event EPA disapproves Respondent's selection(s), Respondent shall, within fifteen (15) days of its receipt of such notice, notify EPA of the identity and qualifications of the contractor(s) who will replace the contractor(s) that has been disapproved

by EPA. Acceptance/disapproval of Respondent's selected replacement contractor(s) shall be governed by the preceding two sentences. Respondent shall additionally notify EPA of the identity and qualifications of any additional contractors and all subcontractors and supervisory personnel that will be used to implement each approved RAWP not less than seven (7) days before any such contractor, subcontractor, or supervisory personnel is scheduled to perform such work. EPA may at any time disapprove the use of any contractor, subcontractor, or supervisory personnel EPA considers to be unqualified or otherwise unable to perform the work, or to continue to perform the work, required by this Consent Order. In the event of any such disapproval, Respondent shall, within fifteen (15) days following receipt of such notice, notify EPA of the identity and qualifications of the contractor, subcontractor, or supervisory personnel that will replace the one(s) EPA has disapproved.

(2) Within thirty (30) days following EPA acceptance of the contractor who will implement the RAWP at a location, Respondent shall commence implementation of the RAWP and shall complete implementation of the RAWP according to its approved terms, conditions, and schedules.

(d) Response Action Completion/Final Report. Within sixty (60) days following the date Respondent concludes it has completed implementation of the RAWP approved by EPA for a particular location or group of locations, Respondent shall submit a written Final Report to EPA for approval so notifying EPA. The written report shall, at a minimum, (1) detail the work undertaken to implement the RAWP, (2) include all data obtained by Respondent to verify the effectiveness of the response action, (3) include all hazardous waste manifests (including copies of all hazardous waste manifests signed upon receipt of the hazardous wastes by a licensed treatment, storage, or disposal facility) pertaining to all hazardous wastes shipped from the location pursuant to Section 8.8 of this Consent Order, if any, and (4) be certified by Respondent in accordance with Section 8.12 of this Consent Order. EPA will review the adequacy of Respondent's implementation of the RAWP and will notify Respondent, in writing, of any discrepancies in the Final Report or deficiencies in the execution of the RAWP. In addition, EPA may identify actions required to correct such discrepancies or deficiencies. Within thirty (30)

business days of receipt of notification by EPA or as otherwise specified by EPA, Respondent shall amend the Final Report, develop an additional plan, or amend the existing RAWP to address such discrepancies or deficiencies. Respondent shall perform such corrective actions in a manner consistent with CERCLA and the NCP and all applicable Federal laws and regulations. Any additional plan or amendment to the RAWP will be subject to EPA approval pursuant to Section IX of this Consent Order.

3.9 Reporting and Document Availability.

- (a) On the first business day of the second month following the month in which EPA approves all or a portion of the Active Screening Assessment Work Plan or the Characterization Work Plan, whichever is earlier, and on the first business day of every month thereafter during the pendency of this Consent Order, Respondent shall provide EPA with a progress report for each preceding calendar month. At a minimum, these progress reports shall include:
1. a description of the actions that have been taken toward achieving compliance with this Consent Order;
 2. a description of all analytical work performed pursuant to this Consent Order during the reporting period which, for any reason, has failed to satisfy the Quality Assurance/Quality Control requirements set forth in Section XI of this Consent Order;
 3. activities scheduled for the next month including, but not limited to, the date of sampling activity for each location to be sampled in the following month;
 4. a description of any problems encountered, any actions taken or to be taken to remedy or mitigate such problems, and a schedule of when such actions will be taken;
 5. the identity of treatment, storage, and/or disposal facilities used during the reporting period;
 6. the identity of transporters used to transport hazardous wastes to treatment, storage, and/or disposal facilities during the reporting period;

7. the identity of any contractors, subcontractors, and supervisory personnel used during the reporting period that have not been previously identified to EPA; and
 8. all modifications to work plans made in accordance with Section XXIII of this Consent Order during the reporting period.
- (b) In addition to the information required pursuant to Section 8.9(a), Respondent shall notify EPA within twenty-four (24) hours following Respondent's receipt of data showing the presence of any contaminant in drinking water in excess of the emergency removal guideline concentration for drinking water set forth in Appendix B. Such notice shall identify, at a minimum, the location of the well(s) from which the data was obtained; the contaminant(s) found in excess of such level(s); and the identity, if known, of all persons served by such well(s).
 - (c) In the event Respondent knows or suspects that the schedule for a particular sampling event may be changed, Respondent shall notify the EPA Project Coordinator not less than twenty-four (24) hours before the date such sampling activity was originally scheduled.
 - (d) Respondent shall compile and retain, as appropriate, monthly reports on analytical services pursuant to OSWER Directive No. 9240.0-2B ("Extending the Tracking of Analytical Services to Potentially Responsible Party-Lead Superfund Sites" (July 6, 1992)).
 - (e) Upon written request from EPA, Respondent shall provide, within ten (10) days of such request or such longer time as EPA may specify, any and all information and documents in its possession, custody, or control resulting from and/or pertaining to work performed by Respondent pursuant to this Consent Order including, but not limited to, analytical data (including raw data); Site safety data; Site monitoring data; operational logs; information and documents concerning Respondent's compliance with Quality Assurance and Quality Control requirements of this Consent Order; information and documents relating to Respondent's efforts to secure access; and information and documents relating to any project delays. Nothing herein shall be interpreted as limiting the inspection and information-gathering authority of EPA under Federal law.

- (f) Unless otherwise provided herein, all documents, including plans, reports, sampling results, and other correspondence to be submitted pursuant to this Consent Order shall be sent by certified or overnight mail to the EPA Project Coordinator designated pursuant to Section X of this Consent Order. EPA and Respondent may agree to an alternative method of document delivery on a document-by-document basis.
 - (g) Commencing one year from the effective date of this Consent Order, and continuing on an annual basis until characterizations at each compressor station and all other locations included on the Work Scope List except liquid removal points, mercury metering stations, and storage well locations have commenced pursuant to Section 8.6 of this Consent Order, Respondent shall submit to EPA for approval a schedule for submission of location-specific sampling and analysis plans (including Field Sampling Plans, Quality Assurance Project Plan, and plans to sample all drinking water wells that are potentially impacted by contamination at each location) which describes the manner in which Respondent will obtain data for each compressor station and each of the other locations included on the Work Scope List except liquid removal points, mercury metering stations, and storage well locations, that Respondent shall commence to characterize during that year.
- 8.10 EPA reserves its right to disapprove of work performed by the Respondent if not performed to EPA's satisfaction in accordance with this Consent Order and reserves its right to request that Respondent perform response actions in addition to those required by, or as modified in the approved work plans, if EPA determines that such actions are necessary and that Respondent is qualified and can carry out such actions properly and promptly. In the event that Respondent declines to perform such additional and/or modified actions, EPA reserves the right to undertake such action(s) and to seek reimbursement of its costs and/or to seek any other appropriate relief.
- 8.11 EPA reserves the right to undertake removal and/or remedial actions at any time that such actions are appropriate under CERCLA and the NCP, and to seek reimbursement for any costs incurred or seek any other appropriate relief.
- 8.12 Certifications. All certifications required by this Consent Order shall be made in accordance with the requirements of this Section.

1. A "responsible official" of Respondent, or his/her duly authorized representative participating in the oversight of activities required by this Consent Order, shall sign each certification in accordance with the requirements of this provision.
2. For a corporation, a "responsible official" means a president, secretary, treasurer, vice president in charge of a principal business function, other person who performs similar policy or decision-making functions for the corporation, or, if authority to sign documents has been assigned or delegated to him/her in accordance with corporate procedures, the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$35 million (in 1987 dollars when the Consumer Price Index was 345.3). For a partnership or sole proprietorship, "responsible official" means a general partner or the proprietor, respectively.
3. A person is a "duly authorized representative" within the meaning of this subsection only if:
 - (a) The authorization is made in writing by a responsible corporate official, and
 - (b) The authorization specifies either an individual or a position within the Respondent's organization responsible for overseeing performance of the work required by this Consent Order, and
 - (c) The written authorization has been approved by EPA prior to the certification.
4. The certification required by this provision shall be in the following form:

"Except as provided below, I certify that the information contained in or accompanying this [type of submission] is true, accurate, and complete to the best of my information, knowledge, and belief and that this [type of submission] and all attachments were prepared at my direction and with my review, in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge, information, and belief.

"This certification shall not apply to information contained herein that was inserted into this [type of submission] by EPA, or was required by EPA to be inserted into this [type of submission], over my objection."

- 8.13 **EPA Takeover of Work.** In the event EPA elects to perform all or any portion of the work required by this Consent Order or to oversee performance of such work by a party other than Respondent, EPA shall so notify Respondent in writing. Such notification ["Takeover Notice"] shall identify the work required by this Consent Order which Respondent shall not perform ["Takeover Work"]. Upon receipt of any such Takeover Notice from EPA, Respondent shall be released from any further obligation under this Consent Order to complete such Takeover Work. Respondent shall not be released, however, from any other obligations under this Consent Order and shall specifically remain liable for, among other things,:
- (a) stipulated penalties for violations of this Consent Order which occurred prior to Respondent's receipt of any such Takeover Notice; provided, however, that stipulated penalties for violations of this Consent Order relating to Takeover Work shall continue to accrue only until (1) EPA, or another party pursuant to an agreement with or order by EPA, commences performance of such work, or (2) sixty (60) days from the date of Respondent's receipt of the Takeover Notice, whichever is less; and
 - (b) oversight costs incurred prior to Respondent's receipt of the Takeover Notice.

Unless otherwise provided in the Takeover Notice, Respondent shall not be released from its obligations under this Consent Order to perform any work required by this Consent Order other than the Takeover Work and shall remain subject to stipulated penalties and responsible for reimbursement of all costs, including oversight costs, relating to all such work.

- 8.14 **Shipment of Hazardous Substances.** Except as provided in this Section 8.14, Respondent shall, prior to any off-site shipment of hazardous substances from any location included in the EPA-approved Work Scope List to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to the EPA Project Coordinator of such shipment of hazardous substances. This paragraph shall not require Respondent to notify a particular State when the total volume of shipments from all locations included within the EPA-approved Work Scope List to that State will not exceed ten (10) cubic yards.

- (a) The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondent shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.
 - (b) The identity of the receiving facility and state will be determined by Respondent. Respondent shall provide all relevant information on the off-site shipments, including information described in Section 8.14(a) of this Consent Order, as soon as practicable but no later than one (1) business day before the hazardous substances are actually shipped.
- 8.15 Respondent shall not handle or remove any hazardous substances from the Site except in conformance with the terms of this Consent Order and all applicable Federal, State, and local laws and regulations, as required by the NCP. Any hazardous substance, pollutant, or contaminant transferred for disposal off-site as a result of this Consent Order must be taken to a facility acceptable under EPA's Off-Site Policy (58 Fed. Reg. 49200 (September 22, 1993)) in accordance with section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3).
- 8.16 Respondent shall not commence any work required by this Consent Order except in conformance with the terms of this Consent Order.
- 8.17 Respondent shall notify the EPA Project Coordinator at the same time and in the same manner as other persons to whom notice is required to be given by law in connection with any action or occurrence during the pendency of this Consent Order which causes or threatens to cause an additional release of hazardous substances, pollutants, or contaminants on, at, or from the Site, or which may create a danger to public health, welfare, or the environment.
- 8.18 In the event that EPA determines that response actions or other current activities at the Site by the Respondent are causing a release or potential release of hazardous substances, or are a threat to public health or welfare or to the environment, EPA may, at its discretion, immediately halt or modify such response actions or other activities to eliminate or mitigate such actual or potential release or threat.

IX. SUBMISSIONS REQUIRING EPA APPROVAL

- 9.1 Any plan, report, or other document required to be submitted for EPA approval pursuant to this Consent Order ["Submission"] shall be submitted to the EPA Project Coordinator designated pursuant to Section X of this Consent Order. After review of any Submission, EPA may: (1) approve, in whole or in part, the Submission; (2) approve the Submission upon specified conditions; (3) direct Respondent to modify the Submission; (4) disapprove, in whole or in part, the Submission; (5) disapprove the Submission as substantially deficient; or (6) any combination of the above. EPA intends to identify deficiencies in Submissions in the notice of disapproval except where EPA disapproves a Submission as substantially deficient. Where practicable, and to the extent that EPA determines that such practice will not unduly delay performance of the work, EPA will provide Respondent one opportunity to cure all deficiencies in a Submission prior to approving a portion of the Submission; provided, however, that EPA need provide no such opportunity to cure prior to approving a portion of any Response Action Work Plan submitted for two or more locations, where such portion approved relates to all work to be implemented at a particular location under such plan.
- 9.2 In the event EPA approves the Submission in whole, Respondent shall take all actions required by the Submission. In all other cases, Respondent shall take all actions required by portions of the Submission which are approved by EPA.
- 9.3 Except as otherwise provided in Section 9.4 of this Consent Order, Respondent shall, upon receipt of a notice of disapproval or notice requiring modification of the Submission, correct the deficiencies and resubmit the Submission for approval within fifteen (15) days of such receipt or such longer time as may be specified by EPA in its discretion. Exercise of EPA's discretion with respect to such period shall not be subject to dispute resolution under this Consent Order.
- 9.4 In the event that (1) any Submission is disapproved by EPA as substantially deficient, or (2) a resubmitted Submission, or portion thereof, is disapproved by EPA, Respondent shall be in violation of this Consent Order. EPA may, under such circumstances, conduct all or any portion of the work required by this Consent Order pursuant to Section 8.12 herein, and seek reimbursement of its costs; take any action described in Section 9.1 of this Consent Order; and/or seek any other appropriate relief.
- 9.5 All Submissions, or portions thereof, shall, upon approval by EPA, be enforceable as requirements of this Consent Order. In the event of a conflict between this Consent Order and any

document attached hereto or enforceable hereunder, the provisions of this Consent Order shall control. Respondent shall immediately notify EPA in the event Respondent becomes aware of a conflict between a requirement of this Consent Order and a requirement of a document attached hereto or enforceable hereunder. Respondent shall not be required to take any action which EPA agrees will conflict with any requirement of this Consent Order until such time this Consent Order or the document is modified, provided Respondent provides notice to EPA as set forth in this paragraph. Respondent shall continue to implement this Consent Order until notified by EPA under this Section 9.5 that EPA agrees that a conflict exists.

- 9.6 No failure by EPA to approve, disapprove, or otherwise respond to a Submission shall be construed as an approval of such Submission.

X. DESIGNATED PROJECT COORDINATORS

- 10.1 Respondent shall designate a Project Coordinator and shall notify EPA of its designated Project Coordinator no later than five (5) calendar days after the effective date of this Consent Order. Designation of a Project Coordinator shall not relieve Respondent of its obligations to comply with the requirements of the Order. The Respondent's Project Coordinator shall be a technical and/or managerial representative of the Respondent and may be a contractor and/or consultant; provided, however, the Respondent's Project Coordinator shall not be its legal representative in this matter. The Project Coordinator for EPA designated pursuant to this Section and the Project Coordinator for the Respondent shall be responsible for overseeing work required by this Consent Order. To the maximum extent possible, communications between the Respondent and EPA and all documents concerning the activities performed pursuant to the terms and conditions of this Consent Order, including plans, reports, approvals, and other correspondence, shall be directed to the Project Coordinators.

- 10.2 The Project Coordinator for EPA is:

James Cashel (3AT31)
Project Coordinator
U.S. Environmental Protection Agency
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-1260

- 10.3 Respondent shall have the right to change its Project Coordinator. Such a change shall be accomplished by notifying the EPA Project Coordinator in writing at least five (5) calendar days prior to the change or otherwise as soon as practicable.
- 10.4 EPA shall have the right to change its Project Coordinator at any time without prior notice to Respondent. EPA's intent is to notify the Respondent as soon as practicable following any such change of its Project Coordinator.
- 10.5 The absence of the EPA Project Coordinator from the Site shall not be cause for the stoppage or delay of work except when such stoppage or delay is specifically required by EPA.
- 10.6 The EPA Project Coordinator shall have the authority to halt or modify work required by this Consent Order or other activities performed by Respondent at the Site to eliminate a release or threat of release of hazardous substances. Such direction by the EPA Project Coordinator may be given verbally or in writing. If such direction is given verbally, the EPA Project Coordinator will later memorialize such direction in writing as soon as practicable.

XI. QUALITY ASSURANCE

- 11.1 The Respondent shall use quality assurance, quality control, and chain of custody procedures in accordance with the following documents while conducting all sample collection and analysis activities required by this Consent Order:
 - (a) "EPA NEIC Policies and Procedures Manual" (EPA Document 330/9-78-001-R (revised November 1984));
 - (b) "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," (QAMS-005/80 (December 1980)); and
 - (c) "QA/QC Guidance for Removal Activities," (EPA/540/G-90/004 (April 1990)).

The Respondent shall use a laboratory(s) which has a documented Quality Assurance Program that complies with EPA guidance document QAMS-005/80, or such other laboratories as may be approved by EPA.

XII. ACCESS

- 12.1 As of the effective date of this Consent Order, Respondent shall provide to EPA and its employees, agents, consultants, contractors, and other authorized and/or designated representatives, for the purposes of conducting and/or overseeing the work required by this Consent Order, access to all property owned or controlled by Respondent wherein work required by this Consent Order must be undertaken. Such access shall permit EPA and its employees, agents, consultants, contractors, and other authorized and designated representatives to conduct all activities described in Section 12.3 of this Consent Order. EPA will furnish copies of insurance certificates provided to EPA by contractors retained by EPA to oversee or perform work at the Site in connection with this Consent Order.
- 12.2 To the extent that property wherein work required by this Consent Order must be undertaken is owned or controlled by persons other than the Respondent, the Respondent shall use reasonable efforts to obtain access agreements from the present owners. Such access agreements shall be finalized as soon as practicable but no later than fourteen (14) days prior to the date such work is scheduled to begin. Such agreements shall provide reasonable access for the Respondent and its employees, agents, consultants, contractors, and other authorized and designated representatives to conduct the work, and for EPA and its designated representatives to conduct the activities outlined in Section 12.3 of this Consent Order. In the event that any property owner refuses to provide such access or access agreements are not obtained within the time designated above, whichever occurs sooner, the Respondent shall notify EPA at that time, in writing, of all efforts to obtain access and the circumstances of the failure to obtain such access. EPA may then take steps to provide such access. Reasonable efforts shall include, but not be limited to, agreement to reasonable conditions for access and/or the payment of reasonable fees.
- 12.3 EPA and its employees, agents, contractors, consultants and other authorized and designated representatives shall have the authority to enter and freely move about the locations where the response actions and/or work is being performed at all reasonable times for the purpose of, inter alia, inspecting work; inspecting records, operating logs, and contracts related to the Site; reviewing the progress of the Respondent in carrying out the terms of this Consent Order; conducting such tests as EPA deems necessary; using a camera, sound recording, or other documentary type equipment for purposes of monitoring activities to be performed pursuant to this Consent Order; and verifying the data submitted to EPA by the

Respondent. The Respondent shall permit such persons to inspect and copy all sampling and monitoring data and all non-privileged records, files, photographs, documents, and other writings in any way pertaining to the work required by this Consent Order. Where practicable, EPA will notify Respondent in advance of any sampling performed at the Site by EPA in connection with this Consent Order and will, at the request of Respondent, provide Respondent with an opportunity to split samples. EPA intends to comply with all applicable Federal health and safety laws while on Respondent's property. EPA further intends to review relevant health and safety plans provided by Respondent and to comply with such plans to the extent practicable.

- 12.4 Except as provided in Section 12.6 of this Consent Order, Respondent may make a claim of business confidentiality for information submitted pursuant to this Consent Order in the manner described in 40 C.F.R. § 2.203(b). Such an assertion shall be adequately substantiated in accordance with 40 C.F.R. § 2.204(e)(4) at the time the assertion is made. Information subject to a confidentiality claim shall be made available to the public by EPA only in accordance with the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no such claim of business confidentiality accompanies the information when it is submitted or made available to EPA, such information may be made available to the public by EPA without further notice to Respondent.
- 12.5 Except as provided in Section 12.6 of this Consent Order, Respondent may withhold any documents covered by any privilege or protection under federal law applied by federal courts in actions commenced by the United States. For purposes of this Consent Order, EPA agrees that it will not maintain that Respondent has waived any privilege or protection otherwise applicable solely on the basis that Respondent has provided information to insurers. In the event that the Respondent withholds a document as privileged, the Respondent shall provide EPA with the title of the document, the date of the document, the name(s) of the author(s), and addressee(s)/recipient(s), a description of the nature of the document, and identification of the privilege asserted at the time any such document is due to be provided to EPA under this Consent Order or as soon as practicable following any request by EPA for access to such documents.
- 12.6 No claim of confidentiality or privilege shall be made regarding any data required to be submitted pursuant to this Consent Order including, but not limited to sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or documents or information evidencing conditions at or around the Site. Nor shall such claims be

made for analytical data; Site safety data; Site monitoring data; operational logs; hazardous waste manifests; identities of treatment, storage, and/or disposal facilities used; identities of transporters used; identities of any contractors or subcontractors used.

- 12.7 Notwithstanding any provision of this Consent Order, EPA retains all of its access and information-gathering authorities and rights under CERCLA and any other applicable statute and regulation.

XIII. DISPUTE RESOLUTION

- 13.1 The resolution of any dispute between EPA and Respondent concerning this Consent Order shall be conducted in accordance with this Section.
- 13.2 (a) Except as otherwise provided herein, if Respondent objects to any EPA notification or action under this Consent Order, the Respondent shall notify the EPA Project Coordinator in writing of its objection(s) within fourteen (14) days of such action or receipt of such EPA notification.
- (b) The written notification of objections from Respondent referred to in Section 13.2(a) of this Consent Order ["Notice of Dispute"] shall identify the issue(s) in dispute, the position Respondent maintains should be adopted by EPA, the basis for Respondent's position, and any matters Respondent considers necessary for EPA's determination.
- (c) Except as provided herein, EPA and the Respondent shall have fourteen (14) days from EPA's receipt of the Notice of Dispute to resolve the dispute. As to any issue for which agreement is not reached during this period, EPA will provide a written statement of its decision to Respondent ["EPA Resolution Notice"]. Except as to disputes concerning selection of a response action pursuant to Section 8.7 of this Consent Order, the EPA Resolution Notice shall be signed by the Chief of the Region III Toxics and Pesticides Branch or his/her designee. The EPA Resolution Notice issued for any dispute concerning selection of a response action pursuant to Section 8.7 of this Consent Order shall be signed by the Director of the Region III Air, Radiation, and Toxics Division or his/her designee. EPA may extend the fourteen (14) day period up to an additional fourteen (14) days if EPA determines that more time is necessary for resolution. Respondent shall not invoke this Section

to object to a EPA Resolution Notice.

- (d) Following resolution of the dispute by agreement (in the event the dispute has been resolved by agreement) or Respondent's receipt of the EPA Resolution Notice (in the event EPA and Respondent are unable to reach agreement), Respondent shall perform the work that was the subject of the dispute in accordance with the agreement (if applicable) or the EPA Resolution Notice.

- 13.3 Notwithstanding any other provisions of this Consent Order, no action or decision by EPA pursuant to this Consent Order shall constitute final agency action giving rise to any right to judicial review prior to EPA's initiation of judicial action to compel compliance with this Consent Order.
- 13.4 Neither invocation of the procedures set forth in this Section, nor EPA's consideration of matters placed into dispute, shall excuse, toll or suspend any compliance obligation or deadline required pursuant to this Consent Order during the pendency of the dispute resolution process.
- 13.5 The existence of a dispute under this Section shall not by itself expand the time frame for completing any work under this Consent Order. Any task that is the subject of a dispute must be completed in the remaining amount of time originally specified in the Consent Order unless the time frame is formally modified by EPA. Any such modifications to this Consent Order shall be made in accordance with Section XXIII of this Consent Order. In the event Respondent does not prevail in the dispute, Respondent may request modification of the timeframe for completion of the action that is the subject of the dispute, provided Respondent demonstrates to EPA's satisfaction that each of the following is met: (a) there will be insufficient time to complete such action on an expedited basis in the time remaining after completion of dispute resolution; (b) the assessment, characterization, and cleanup of the location(s) affected by the dispute will not be unduly delayed by the timeframe modification requested by Respondent; and (c) the dispute was brought in good faith and was not an attempt to delay compliance with the Consent Order. EPA's decision on Respondent's request shall not be subject to dispute resolution. Neither Respondent's request for modification of the applicable timeframe, nor consideration by EPA of any such request, shall excuse, toll, or suspend any compliance obligation or deadline required pursuant to this Consent Order.
- 13.6 The accrual of stipulated penalties shall continue notwithstanding the existence of a dispute or invocation of the procedures set forth in this Section.

- 13.7 In order to prevail in any dispute concerning costs under Section XVII of this Consent Order, Respondent shall have the burden of proving that such costs have been calculated incorrectly, or that such costs were not authorized by CERCLA or were incurred in a manner inconsistent with the NCP.

XIV. DELAY IN PERFORMANCE AND STIPULATED PENALTIES

- 14.1 For each day, or portion thereof, that Respondent fails to comply with any requirement of this Consent Order at the time and in the manner set forth herein, the Respondent shall be liable upon demand to EPA for the sums set forth below as stipulated penalties. Checks shall be made payable to the "Hazardous Substance Superfund" and shall be transmitted to:

U.S. Environmental Protection Agency, Region III
Attention: Superfund Accounting
Box 360515
Pittsburgh, PA 15251-6515

Payment shall be made by cashier's or certified check within thirty (30) calendar days of receipt of demand. Interest at the rate of the current annualized treasury bill rate shall begin to accrue on the unpaid balance at the end of the thirty day period pursuant to section 107(a) of CERCLA, 42 U.S.C. § 9607(a). A copy of the transmittal letter shall be sent simultaneously to the EPA Project Coordinator. A copy of the transmittal letter and check shall be sent simultaneously to:

Regional Hearing Clerk (3RC00)
U.S. Environmental Protection Agency
841 Chestnut Building
Philadelphia, PA 19107

and

Andrew S. Goldman (3RC21)
Sr. Assistant Regional Counsel
U.S. Environmental Protection Agency
841 Chestnut Street
Philadelphia, PA 19107

- 14.2 Stipulated penalties shall accrue in the amount of \$5,000 per calendar day per violation. Neither the accrual of, nor demand for stipulated penalties set forth in this Section shall preclude EPA from pursuing other penalties or sanctions available to EPA for Respondent's failure to comply with the requirements of this Consent Order. In the event that statutory penalties are imposed for a violation of this Consent Order for which Respondent is concurrently liable for

stipulated penalties pursuant to this Consent Order, Respondent shall be entitled to an offset to the total amount of statutory penalties assessed by the total amount of stipulated penalties paid for such violation.

- 14.3 Determinations of non-compliance by Respondent with this Consent Order shall be made by EPA and are subject to Dispute Resolution under Section XIII of this Consent Order.

XV. FORCE MAJEURE AND NOTIFICATION OF DELAY

- 15.1 A failure by Respondent to comply with any requirement of this Consent Order in the manner or in the time required by this Consent Order ["Compliance Failure"] shall constitute a violation of this Consent Order unless such Compliance Failure has resulted from a Force Majeure Event within the meaning of Section 15.2 of this Consent Order. To the extent that a delay is caused by a Force Majeure Event, the schedule for performance of work affected by the delay will be extended by EPA for the time necessary to complete such work, up to the period of the delay directly resulting from the Force Majeure Event. Except as may be specifically provided by EPA, no such schedule extension shall affect the schedule for completion of any other tasks required by this Consent Order.

- 15.2 A Force Majeure Event is any event which:

- (a) arises from causes not reasonably foreseeable and beyond the control of Respondent, and
- (b) results in delays or prevents performance by a date or manner required by this Consent Order,

provided that Respondent has used reasonable efforts to perform as required by this Consent Order. "Reasonable efforts" as used in this Paragraph shall include, but not be limited to, efforts to expedite the performance of activities in order to minimize delays to the extent practicable. Neither increased costs of performance nor changed economic circumstances shall be considered a Force Majeure Event. Force Majeure may include delays caused by failure to obtain Federal, State, or local permits provided Respondent proves force majeure and demonstrates that Respondent timely submitted all information and documentation required for applications for permits (and any supplemental information that may be requested) within a timeframe that would permit work to proceed in accordance with EPA-approved schedules.

- 15.3 Respondent shall have the burden of proving that a Force Majeure Event has occurred.

- 15.4 The Respondent shall notify EPA of any delay or anticipated delay in achieving compliance with any requirement of this Consent Order, including any approved Submission. Such notification shall be made orally as soon as possible but no later than two (2) business days after Respondent or any of its agents or contractors becomes aware of such delay, or through the exercise of due diligence should have become aware of such delay, and in writing no later than seven (7) days after Respondent or any of its agents or contractors becomes aware, or through the exercise of due diligence should have become aware, of such a delay or anticipated delay. The written notification, which shall be certified in accordance with Section 8.11 of this Consent Order, shall describe in reasonable detail the nature of the delay; the reasons the delay is beyond the control of Respondent (if applicable); the actions that will be taken to mitigate, prevent, and/or minimize further delay; the anticipated length of the delay; and the timetable according to which the actions to mitigate, prevent, and/or minimize the delay will be taken. The Respondent shall adopt all reasonable measures to avoid and minimize any such delay. Failure of the Respondent to comply with the notice requirements of this Section shall constitute a waiver of the Respondent's right to invoke the benefits of Section 15.1 of this Consent Order with respect to that event.
- 15.5 In the event that EPA and the Respondent cannot agree that a particular delay in achieving compliance with the requirements of this Consent Order, including any approved Submission, has been or will be caused by a Force Majeure Event, the dispute shall be resolved in accordance with the provisions of Section XIII of this Consent Order. The Respondent shall have the burden of proving that the delay was caused by a Force Majeure Event.
- 15.6 Modifications to this Consent Order following a Force Majeure Event shall be made in accordance with Section XXIII of this Consent Order.

XVI. RESERVATION OF RIGHTS

- 16.1 Except as expressly provided in this Consent Order, (1) each party reserves all rights, claims, interests, and defenses it may otherwise have, including Respondent's right to seek contribution and any right it may have to seek legal or equitable relief from any action by EPA under this Consent Order which Respondent alleges may result in irreparable harm to Respondent in the discharge of its responsibilities as a natural gas pipeline company, and (2) nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Consent Order, including the right to seek

injunctive relief and/or the imposition of statutory penalties.

- 16.2 As provided by this Consent Order, EPA expressly reserves its right to disapprove of any work performed by Respondent which is not performed to EPA's satisfaction in accordance with this Consent Order; to halt work being performed by Respondent if Respondent has not complied with an approved work plan or this Consent Order, or at any time EPA deems necessary to protect public health, welfare, or the environment, and to perform such work; and to request and require hereunder that Respondent correct and/or re-perform any and all work disapproved by EPA; and/or to request or require that Respondent perform response actions in addition to those required by this Consent Order. In the event EPA requires Respondent, and Respondent declines, to correct and/or re-perform work that has been disapproved by EPA and/or to perform response actions in addition to those required by this Consent Order, EPA reserves the right to undertake such actions and seek reimbursement of the costs incurred, and/or to seek any other appropriate relief. In addition, EPA reserves the right to undertake removal and/or remedial actions at any time that such actions are appropriate under the NCP and to seek reimbursement for any costs incurred and/or take any other action authorized by law.
- 16.3 EPA reserves all rights it may have to bring an action against the Respondent for recovery of all oversight and other response costs provided for by Section XVII of this Consent Order which have been incurred by the United States in connection with this Consent Order and which are not reimbursed by the Respondent, as well as any other costs incurred by the United States for response actions conducted in connection with the Site.
- 16.4 Except as expressly provided in Section XXVI of this Consent Order, EPA reserves all rights including, without limitation, the right to institute legal action against Respondent and/or any other persons in connection with the performance of any response actions not addressed by this Consent Order including, but not limited to, response actions at areas of the Site not identified by Respondent as required by Section 8.2 of this Consent Order and response actions deemed necessary by EPA at areas of the Site which have been removed from the Work Scope List pursuant to Sections 8.2(d), 8.4, and 8.5(d) of this Consent Order.
- 16.5 Nothing in this Consent Order shall limit the authority of the EPA Project Coordinator under CERCLA and the NCP.

XVII. REIMBURSEMENT OF COSTS

- 17.1 EPA will submit to the Respondent on a periodic basis a summary report of response costs, including oversight costs and any costs of obtaining access to property pursuant to Section 12.2 of this Consent Order, paid by the U.S. Government in connection with this Consent Order. Oversight costs shall include administrative, enforcement, inspection, and investigative costs paid by EPA, its agents, or contractors in connection with EPA's oversight of the work performed by the Respondent under the terms of this Consent Order and shall include, but not be limited to, time and travel costs of EPA personnel and associated indirect costs, contractor costs, costs of compiling cost documentation, compliance monitoring, collection and analysis of split samples, inspection of activities, Site visits, interpretation of Consent Order provisions, discussions regarding disputes that may arise as a result of this Consent Order, and review and approval or disapproval of reports. In view of the decision in United States v. Rohm and Haas Co., No. 92-1517 (3d Cir.: Aug. 12, 1993) regarding the liability of responsible parties for reimbursement of oversight costs under section 107(a) of CERCLA, 42 U.S.C. § 9607(a), the summary report shall, to the extent practical, distinguish costs incurred for oversight performed at locations in the States of New Jersey and Delaware and the Commonwealth of Pennsylvania from all other oversight costs incurred in connection with this Consent Order.
- 17.2 Upon request, Respondent shall have the right to examine the documentation in EPA's possession on which the summary report described in Section 17.1 of this Consent Order is based. Requests for such documentation shall be made in writing and must be received by EPA within fourteen (14) days from the date Respondent receives the summary report. All documents provided to Respondent by EPA pursuant to this paragraph shall be handled in the manner set forth in Section 17.4 of this Consent Order.
- 17.3 (a) Except as provided in Section 17.3(b) of this Consent Order, the amount identified in the summary report provided under Section 17.1 of this Consent Order shall be due and payable by Respondent no later than thirty (30) calendar days of receipt of such summary report, or of the documents provided by EPA pursuant to Section 17.2 of this Consent Order, whichever is later. On or before the date such amount is due and payable, Respondent shall remit a check for the amount of those costs made payable to the "Hazardous Substances Superfund." Interest at a rate established pursuant to section 107(a) of CERCLA, 42 U.S.C. § 9607(a), shall begin to accrue on the unpaid

balance from that date, even if there is a dispute or an objection to any portion of the costs. Checks should specifically identify the Site name and be forwarded to:

U.S. Environmental Protection Agency
Region III
Attention: Superfund Accounting
Box 360515
Pittsburgh, PA 15251-6515

A copy of the transmittal letter and check shall be sent to the EPA Project Manager and to the EPA Region III Regional Hearing Clerk at the address specified in Section XIV of this Consent Order.

- (b) Respondent shall not be obligated by this Consent Order to reimburse the United States for costs incurred for oversight of work performed at locations in the States of New Jersey and Delaware and the Commonwealth of Pennsylvania unless the decision in United States v. Rohm and Haas Co., No. 92-1517 (3d Cir.: Aug. 12, 1993) regarding the liability of responsible parties for reimbursement of oversight costs under section 107(a) of CERCLA, 42 U.S.C. § 9607(a), is reversed or overturned by the United States Court of Appeals for the Third Circuit, the United States Supreme Court, or the United States Congress through statutory amendment or otherwise. In such event, EPA will notify Respondent of the oversight costs due and payable under this Consent Order in connection with oversight performed in these states. Respondent shall, within thirty (30) calendar days of receipt of such notice, reimburse such costs in accordance with Section 17.3(a) of this Consent Order.
- (c) Nothing in this Consent Order shall be deemed to be an admission by EPA or the United States regarding the liability of responsible parties to reimburse oversight costs incurred by the United States. Nothing in this Consent Order shall be admissible in any proceeding as to the legal issue whether oversight costs are properly recoverable under section 107 of CERCLA, 42 U.S.C. § 9607, or pursuant to a settlement of any action brought thereunder.

17.4 Respondent acknowledges that documents provided by EPA pursuant to Section 17.2 of this Consent Order may include documents which have been submitted to EPA by various contractors and which contain certain information which may be entitled to confidential treatment under 40 C.F.R. Part 2. EPA and Respondent agree that limitation on the disclosure of such documents is necessary in order to protect the interests

of the submitters in the confidentiality of their business information. Accordingly, documents provided by EPA pursuant to Section 17.2 of this Consent Order shall be subject to the following:

- a. EPA shall provide the documents containing information which may be entitled to confidential treatment to Respondent and such documents shall be handled in accordance with the requirements of this Section.
- b. As used in this Section, the term "confidential information" means trade secrets or commercial or financial information submitted by a person to EPA and which may be entitled to confidential treatment under 40 C.F.R. Part 2. Such "confidential information" has not been determined by EPA under 40 C.F.R. Part 2, Subpart B, to be entitled to confidential treatment.
- c. Any information to be produced by EPA pursuant to Section 17.2 of this Consent Order and which may be entitled to confidential treatment under 40 C.F.R. Part 2 shall be stamped conspicuously with the word "CONFIDENTIAL" by EPA at the top of each page of each document prior to transmittal to Respondent. The transmittal of information designated as confidential shall be done by letter from EPA stating that the information is designated as confidential and is subject to this Consent Order.
- d. Information designated as confidential under this Section 17.4 shall not be used or disclosed by Respondent or any person subject to paragraph (e) below for any purpose other than reimbursement of costs in accordance with this Consent Order.
- e. Respondent and its counsel who obtain information designated as confidential hereunder, and any nonparty subject to this Section 17.4, shall not disclose or permit disclosure of this information to any other person including, without limitation, any officer, director, employee, agent, or representative of Respondent, Respondent's counsel, or any nonparty, except in the following circumstances:
 1. Disclosure may be made to employees of Respondent or of Respondent's counsel who have responsibility for reimbursement of costs pursuant to this Consent Order. Any employee to whom disclosure is made shall be advised of, and become subject to, this Section 17.2 prior to such disclosure by signing a Confidentiality Agreement which reads substantially as follows:

"CONFIDENTIALITY AGREEMENT. The undersigned is currently working at _____ which is located at _____. During the past year the undersigned has been employed or otherwise engaged as a contractor or consultant by the following companies located at the corresponding addresses: _____. The undersigned hereby acknowledges that he/she has read Section 17.4 of the Consent Order between EPA and Columbia Gas Transmission Corporation [EPA Docket No. III-94-35-DC] ["Consent Order"], understands the terms thereof, and agrees to be bound by such terms. The undersigned understands that disclosure of information which has been designated as confidential by EPA may cause substantive harm to the affected business' competitive position. Accordingly, among other responsibilities, the undersigned shall only share such information with persons specifically authorized to receive the information pursuant to the Consent Order, shall retain the information in a secure manner, and shall use such information only for the purposes authorized by the Consent Order. The undersigned understands that this pledge of confidentiality continues for an indefinite term. Furthermore, the undersigned understands that a breach of this Confidentiality Agreement may subject him/her to damages and to criminal prosecution under 42 U.S.C. § 9604(e)(7)(B).

"Signed: _____

"Dated: _____."

Employees do not include persons, firms, or corporations engaged by Respondent or Respondent's counsel on a contract basis, who shall be subject to the requirements of subparagraph 2 of this Paragraph.

2. Disclosure may be made to consultants, witnesses, experts, or employees of experts ["Experts"] employed or otherwise engaged by Respondent or Respondent's counsel to assist in complying with this Consent Order. Prior to disclosure to any Expert, the Expert must agree to be bound to the terms of this Section 17.4 by executing a Confidentiality Agreement substantially in the form set forth in subparagraph (1) above. A copy of each executed Confidentiality Agreement shall be furnished to EPA not less than five (5) business

days prior to disclosure to the Expert of the business information.

- f. Respondent, Respondent's counsel, and any other person subject to this Section who obtains information designated as confidential hereunder shall take all necessary and appropriate measures to maintain the confidential nature of the information, shall share such information only with persons authorized to receive it pursuant to this Section 17.4, and shall retain the information in a secure manner. Except as provided in paragraph (e) above, no other person shall be permitted access to the information.
 - g. Any person who obtains access to information designated as confidential under this Section may make copies, duplicates, extracts, summaries, or descriptions of the information or any portion thereof only for the purpose of complying with this Consent Order. All copies, duplicates, extracts, etc. shall be subject handled in the manner set forth in this Section 17.4 to the same extent and manner as original documents.
 - h. Any unauthorized disclosure of information designated as confidential hereunder shall not result in a waiver of any submitter's claim of confidentiality.
 - i. Within sixty (60) days following payment of the amount identified in each summary report provided pursuant to Section 17.1 of this Consent Order, any person who obtained information designated as confidential hereunder shall assemble and return such information to EPA, including all copies, extracts, summaries, or descriptions of the information or portions thereof. Such return shall be certified in writing by the person who obtained the information from EPA. All such information covered by this Section which constitutes the work product of counsel or Respondent shall be destroyed.
- 17.5 EPA anticipates that it will oversee Respondent's performance under this Consent Order using EPA personnel and personnel of other agencies of the United States to the extent practicable. In addition, EPA and Respondent contemplate that State environmental agencies may provide oversight of Respondent's work under this Consent Order, provided EPA determines that such environmental agencies have the personnel and other resources to provide oversight in accordance with EPA requirements. The use of such State environmental agencies in overseeing Respondent's performance under this Consent Order, as well as the use of Federal and non-Federal personnel, shall be solely at the discretion of EPA and shall not be subject to dispute

resolution. EPA intends to notify Respondent's Project Coordinator when EPA engages any non-Federal personnel to perform oversight of Respondent's work under this Consent Order.

- 17.6 On an annual basis, Respondent and EPA will meet to identify and consider strategies for minimizing oversight costs. Neither the scheduling nor holding of any such meeting shall delay, alter, or otherwise affect Respondent's obligation to reimburse any costs at the time and in the manner provided by this Section.

XVIII. RECORD PRESERVATION

- 18.1 For each location included at any time on the Work Scope List, Respondent agrees to preserve, during the pendency of this Consent Order and for a minimum of five (5) years after:

- (a) the date such location has been removed from the Work Scope List by EPA, or
- (b) the date on which Respondent receives written notice from EPA that EPA has accepted the Final Report for such location pursuant to Section 8.8(d) of this Consent Order,

whichever occurs earlier, all records and documents in its possession or in the possession of any of its divisions, officers, directors, employees, successors, and assigns that relate in any way to work performed under this Consent Order at such location, or to hazardous substance management and/or disposal at such location, including raw data, despite any document retention policy to the contrary. Respondent shall ensure that copies of all such records and documents that relate to the location and are in the possession of its employees, agents, accountants, contractors, and attorneys are retained in accordance with the requirements of this Consent Order.

- 18.2 Within seven (7) days of the effective date of this Consent Order Respondent shall designate a Document Coordinator for all records and documents required to be preserved pursuant to Section 18.1 of this Consent Order, including records and documents that will be retained on Respondent's behalf by persons other than Respondent, and shall notify EPA of the identity of that Custodian. Respondent may change its Document Coordinator upon written notification to EPA of such change.

- 18.3 Any agreement between Respondent and an agent, contractor, consultant, accountant, or attorney relating to performance of work under this Consent Order shall require in writing that said agent, contractor, consultant, accountant, or attorney maintain and preserve all records and documents in its possession that in any way relate to such agreement for the period required of Respondent under Section 18.1 of this Consent Order.
- 18.4 Respondent shall not destroy any records or documents required to be preserved by this Consent Order, including records and documents claimed as privileged, unless the obligation to maintain and preserve such records and documents has terminated in accordance with Section 18.5 of this Consent Order.
- 18.5 (a) Notwithstanding any other provision of this Section, any obligation of any person to maintain and preserve records and documents for a particular location included at any time on the Work Scope List during the pendency of this Consent Order shall terminate when both:
- (1) Five (5) years have passed after the earlier of:
 - a. the date such location was removed from the Work Scope List by EPA; or
 - b. the date on which Respondent receives written notice from EPA that EPA has accepted Respondent's Final Report for such location pursuant to Section 8.8(d) of this Consent Order;
 - and
 - (2) Respondent's Document Coordinator has notified both (i) EPA Region III, and (ii) the EPA Regional Office with jurisdiction over the location for which Respondent seeks to destroy records or documents, by certified letters to the Regional Administrator(s) and Regional Counsel(s) stating that, pursuant to this Consent Order, which shall be attached to such letters, such records or documents will be destroyed no less than ninety (90) days after receipt of such letters unless EPA requests copies of the records and documents, and either:
 - a. EPA has failed to request copies of such records and documents within ninety (90) days after its receipt of the above-described

letters, or

- b. EPA has requested and received copies or originals of the documents.
- (b) Respondent shall provide EPA with originals or copies of all non-privileged records and documents, including records and documents retained by others on behalf of Respondent, requested by EPA pursuant to this Section within thirty (30) days following receipt of any such request. In the event that the Respondent withholds a document as privileged, the Respondent shall provide EPA with the title of the document, the date of the document, the name(s) of the author(s), and addressee(s)/recipient(s), a description of the nature of the document, and identification of the privilege asserted at the time any such document is due to be provided to EPA. Respondent shall not destroy any records or documents claimed as privileged until EPA has notified Respondent that EPA has waived its right to obtain such records or documents from Respondent.
- (c) Respondent shall provide the notice required by Section 18.5(a)(2) of this Consent Order no more than once in any twelve month period. Each such notice shall identify the location(s) covered by such notice and shall reasonably identify the records and documents which Respondent, and/or others retaining documents on behalf of Respondent, intends to destroy.

XIX. OTHER CLAIMS

- 19.1 Nothing in this Consent Order shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, or corporation not bound by this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the Site. With regard to claims for contribution against Respondent for matters addressed in this Consent Order, EPA and Respondent agree that Respondent is entitled to such protection from contribution actions or claims as is provided by section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2).
- 19.2 This Consent Order does not constitute any decision on preauthorization of funds under section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

- 19.3 By consenting to the issuance of this Consent Order, the Respondent waives any claim to reimbursement it may have under sections 106(b), 111, and 112 of CERCLA, 42 U.S.C. §§ 9606(b), 9611, and 9612.

XX. OTHER APPLICABLE LAWS

- 20.1 All work required by this Consent Order shall be undertaken in accordance with the requirements of all applicable or relevant and appropriate local, State, and Federal laws and regulations, as required by the NCP. In accordance with section 121(e) of CERCLA, 42 U.S.C. § 9621(e), no local, State, or Federal permit shall be required for any portion of any action conducted entirely on-site, including studies, where such action is carried out in compliance with this Consent Order.

XXI. INDEMNIFICATION OF THE UNITED STATES GOVERNMENT

- 21.1 Respondent agrees to indemnify and save and hold harmless the United States Government, its agencies, departments, agents, and employees, from any and all claims or causes of action arising from or on account of acts or omissions of Respondent or its agents, contractors, receivers, trustees, and assigns in carrying out activities required by this Consent Order, except under circumstances in which the United States Government, its agencies, departments, agents, and employees were negligent and this negligence was the sole cause of the harm alleged. This indemnification shall not be construed in any way as affecting or limiting the rights or obligations of Respondent or the United States under their various contracts.

XXII. LIABILITY OF THE UNITED STATES GOVERNMENT

- 22.1 Neither the United States Government nor any agency thereof shall be liable for any injuries or damages to persons or property resulting from acts or omissions of Respondent, or of Respondent's employees, agents, servants, receivers, successors, or assignees, or of any persons, including, but not limited to firms, corporations, subsidiaries, contractors, or consultants, in carrying out activities pursuant to this Consent Order, nor shall the United States Government or any agency thereof be held as a party to any contract entered into by Respondent in carrying out activities pursuant to this Order.

XXIII. SUBSEQUENT MODIFICATION

- 23.1 This Consent Order may be amended by mutual agreement of EPA and the Respondent. Such amendments shall be in writing and shall have as their effective date, the date on which such amendments are signed by EPA.
- 23.2 (a) Minor modifications to the requirements of the ASAWPs, COWPs, and RAWPs, specifically those which EPA determines do not materially or significantly affect the nature, scope, or timing of the work to be performed, may be made by mutual agreement of the Project Coordinators. Any such modifications must be in writing and signed by both Project Coordinators. The effective date of the modification shall be the date on which the letter from EPA's Project Coordinator is signed.
- (b) Modifications to the requirements of the ASAWPs, COWPs, or RAWPs that are not minor modifications as described in Section 23.2(a) of this Consent Order may be made by mutual agreement of EPA and the Respondent. Any such modifications must be in writing and signed by Respondent's Project Coordinator and the Chief of the Region III Toxic and Pesticides Branch or his/her designee. The effective date of the modification shall be the date on which the modification is signed by EPA.
- 23.3 Respondent agrees that any request for modification of this Consent Order by Respondent shall be accompanied by a statement of how such modification shall affect the schedules set forth in all affected work plans.
- 23.4 Following EPA approval of a modification to a schedule, Respondent agrees, within seven (7) days of receipt of the modification, to supply to EPA a revised schedule and accompanying charts which shall reflect the approved modifications to such schedule.
- 23.5 Any reports, plans, specifications, schedules, or other submissions required by this Consent Order and any modifications thereto are, upon approval by EPA, enforceable as requirements of this Consent Order. Any non-compliance with such EPA-approved or modified reports, plans, specifications, schedules, or other submissions shall be considered non-compliance with the requirements of this Consent Order and shall subject the Respondent to, among other things, the requirements of Section XIV of this Consent Order.
- 23.6 No informal advice, guidance, suggestions, or comments by EPA, other than a formal approval as specified in Section IX of this Consent Order, regarding reports, plans, specifications,

schedules, and any other writing submitted by the Respondent or regarding any other requirement of this Consent Order will be construed as relieving the Respondent of its obligation to obtain formal approval when required by this Consent Order, and to comply with requirements of this Consent Order, unless formally modified.

XXIV. EFFECTIVE DATE

- 24.1 Within forty-five (45) days following receipt of a fully executed true and correct copy of this Consent Order, Respondent shall file papers with the United States Bankruptcy Court for the District of Delaware seeking authority to be bound by the terms of this Consent Order. Respondent shall provide EPA with a copy of all relevant moving papers and shall give EPA reasonable notice of any hearings with respect to such matter. Respondent shall further provide EPA with copies of any written decisions and orders issued by the Court relating to this matter within five (5) days of Respondent's receipt of such documents and shall provide EPA with copies of all appeal petitions and related documents and all written appellate decisions and orders relating to this matter within five (5) days following receipt by Respondent of such documents. Respondent shall notify EPA in writing no later than three (3) business days after the date that the period for all appeals from any decision by the Bankruptcy Court or appellate Court which provides Respondent with authority to be bound by any of the terms of this Consent Order has expired, provided no appeals have been filed. All notices and documents required to be provided to EPA pursuant to this Section 24.1 shall be forwarded to:

Andrew S. Goldman (3RC21)
Sr. Assistant Regional Counsel
U.S. Environmental Protection Agency
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-4840

This Section 24.1 shall be effective three (3) business days following the date on which EPA forwards a fully executed true and correct copy of this Consent Order to Respondent.

- 24.2 EPA reserves the right to withdraw its consent from this Consent Order at any time prior to the effective date of this Consent Order as provided by this Section 24.2, or at any time following modification of this Consent Order or its requirements by the United States Bankruptcy Court, or any appellate Court, during the pendency of Respondent's bankruptcy. Following resolution of all appeals relating to Respondent's

authority to be bound by the terms of this Consent Order, EPA will evaluate the Court's grant of authority to Respondent, including the attachment of any conditions or limitations on Respondent's authority to be bound by the terms of this Consent Order, and will notify Respondent of EPA's decision whether it continues to consent to this Consent Order. Except as provided in Section 24.1 of this Consent Order, the effective date of this Consent Order shall be three (3) business days following the date on which EPA forwards written notice to Respondent that EPA continues to consent to this Consent Order.

- 24.3 Nothing in this Consent Order shall be construed as an admission by EPA that (i) Respondent's liability to perform response actions at the Site under CERCLA, to reimburse the United States for all costs incurred in connection with response actions undertaken by EPA at the Site pursuant to CERCLA, or to comply with any law or regulation administered by EPA is conditioned on approval by or authority from the United States Bankruptcy Court, or (ii) that authority to enforce this Consent Order rests with the United States Bankruptcy Court. Except as otherwise provided by this Consent Order, EPA reserves the right to issue such orders as may be necessary to require that Respondent perform the work described in this Consent Order.

XXV. NOTICE OF COMPLETION/TERMINATION OF ORDER

- 25.1 When Respondent believes that (1) Characterization Reports for all locations included in the approved Work Scope List have been submitted to, and approved by, EPA; (2) Final Reports required by Section 8.7(d) of this Consent Order have been submitted and approved by EPA for all locations included in the approved Work Scope List; (3) all costs reimbursable under Section XVII of this Consent Order and identified by EPA have been paid to EPA; and (4) all penalties assessed by EPA pursuant to this Consent Order have been paid to EPA, Respondent shall so notify EPA in writing ["Respondent's Completion Petition"].
- 25.2 If, following receipt of Respondent's Completion Petition, EPA determines that (1) Characterization Reports for all locations included in the approved Work Scope List have been submitted to, and approved by, EPA; (2) Final Reports required by Section 8.7(d) of this Consent Order have been submitted and approved by EPA for all locations included in the approved Work Scope List; (3) all costs identified by EPA in each summary report provided to Respondent pursuant to Section 17.1 of this Consent Order have been paid to EPA; and (4) all penalties assessed by EPA pursuant to this Consent Order have

been paid to EPA, EPA shall so notify Respondent in writing ["Notice of Completion"]. Except as provided herein, this Consent Order shall be deemed terminated upon Respondent's receipt of a Notice of Completion from EPA. EPA's issuance of a Notice of Completion shall not terminate or otherwise affect Sections I (Jurisdiction/General Provisions/Definitions), II (Statement of Purpose), III (EPA Findings of Fact), IV (Conclusions of Law), V (Determinations), VI (Parties Bound) (Section 6.1 only), XIV (Delay in Performance and Stipulated Penalties), XV (Force Majeure and Notification of Delay), XVI (Reservation of Rights), XVII (Reimbursement of Costs), XVIII (Record Preservation), XIX (Other Claims), XXI (Indemnification of the United States Government), and XXII (Liability of the United States Government), XXVI (Covenant Not to Sue) of this Consent Order. EPA reserves the right to require hereunder that Respondent reimburse all costs identified in summary reports provided to Respondent pursuant to Section 17.1 of this Consent Order after issuing a Notice of Completion pursuant to this Paragraph.

- 25.3 If EPA does not agree that (1) Characterization Reports for all locations included in the approved Work Scope List have been submitted to, and approved by, EPA; (2) removal response actions selected by EPA for implementation at all locations included in the approved Work Scope List have been completed; (3) all costs reimburseable under Section XVII of this Consent Order have been paid to EPA; and (4) all penalties assessed by EPA pursuant to this Consent Order have been paid to EPA, EPA shall notify Respondent in writing of the activities that must be undertaken to complete such work. If applicable, EPA will set forth a schedule for performance of such activities consistent with this Consent Order or may require Respondent to submit a schedule for EPA approval. Respondent shall perform all activities described in EPA's notice in accordance with the specifications and schedules established pursuant to this paragraph, subject to Respondent's right to invoke dispute resolution under Section XIII of this Consent Order, and shall submit a Completion Petition to EPA in accordance with Section 25.1 of this Consent Order.

XXVI. COVENANT NOT TO SUE

- 26.1 From the effective date of this Consent Order and for as long as EPA determines that the terms of this Consent Order, including any modifications made hereto, are being and have been fully complied with, and except for any proceeding to enforce its terms or collect any applicable costs or penalties, EPA agrees not to sue or take any administrative action against the Respondent, its assigns, and successors in interest, for the work required by this Consent Order or for

reimbursement of costs incurred in connection with this Consent Order.

26.2 Nothing in this Consent Order shall be construed to limit the rights EPA has reserved under Section XVI of this Consent Order.

26.3 Nothing in this Consent Order shall be construed to grant any rights to persons not a party to this Consent Order.

XXVII. DISCLAIMER

27.1 By signing this Consent Order and taking actions under this Consent Order, Respondent does not necessarily agree with EPA's Findings of Fact and Conclusions of Law. Furthermore, the participation of Respondent in this Consent Order shall not be considered an admission of liability and is not admissible in evidence against Respondent in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Consent Order or a judgment relating to this Consent Order. Respondent retains its rights to assert claims against other potentially responsible parties at any location covered by this Consent Order.

IT IS SO AGREED AND ORDERED:

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

Jeanne M. Fox
Regional Administrator
EPA Region II

Date

Peter H. Kostmayer
Regional Administrator
EPA Region III

SEP 22 1994
Date

John Hankinson, Jr.
Regional Administrator
EPA Region IV

SEP 23 1994
Date

Valdas V. Adamkus
Regional Administrator
EPA Region V

Date

FOR THE RESPONDENT:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

R. Larry Robinson

SEP 24 1994
Date

Print Name: R. Larry Robinson

Position: President

IT IS SO AGREED AND ORDERED:

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

Jeanne M. Fox
Jeanne M. Fox
Regional Administrator
EPA Region II

August 18, 1991
Date

Peter H. Kostmayer
Regional Administrator
EPA Region III

Date _____

John Hankinson, Jr.
Regional Administrator
EPA Region IV

Date _____

Valdas V. Adamkus
Regional Administrator
EPA Region V

Date _____

FOR THE RESPONDENT:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

Print Name: _____

Position: _____

IT IS SO AGREED AND ORDERED:

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

Jeanne M. Fox
Regional Administrator
EPA Region II

Date

Peter H. Kostmayer
Regional Administrator
EPA Region III

Date

John Hankinson, Jr.
Regional Administrator
EPA Region IV

Date

Valdas V. Adamkus
Regional Administrator
EPA Region V

Date

8/17/94

FOR THE RESPONDENT:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

Print Name: _____

Position: _____

Date

APPENDIX A

Appendix A, the Order by the United States Bankruptcy Court for the District of Delaware to be sought by Respondent pursuant to this Consent Order following signature by all parties, will be provided to Region III by Respondent following issuance by the Court. Region III will distribute a copy of the Order to each participating Region to replace this page.

Following the list of emergency removal trigger guidelines is the list of removal numeric action levels for contaminated drinking water sites. This list was prepared by the U.S. EPA Office of Solid Waste and Emergency Response, Emergency Response Division and released in November 1992. The list reflects EPA and oral toxicity data and associated health criteria available for the listed chemicals. The toxicity data has been obtained from EPA's Integrated Risk Information System (IRIS), and EPA's Health Effects Assessment Summary Tables (HEAST).

EMERGENCY REMOVAL GUIDELINES Version 3.0 29 July 1993 Roy L. Smith, Ph.D. EPA Region III (3HW13) 841 Chestnut Street Philadelphia, Pennsylvania 19107	
Exposure Variables	Value
1 - General:	
Carcinogenic potency slope oral (kg-d/mg):	*
Carcinogenic potency slope inhaled (kg-d/mg):	*
Reference dose oral (mg/kg/d):	*
Reference dose inhaled (mg/kg/d):	*
Target cancer risk:	1E-04
Target hazard quotient:	10
Body weight, adult (kg):	70
Body weight, age 1 - 6 (kg):	15
Body weight, age adjusted (kg):	59
Averaging time carcinogens (d):	25550
Averaging time non-carcinogens (d):	ED*365

EMERGENCY REMOVAL GUIDELINES Version 3.0 29 July 1993 Roy L. Smith, Ph.D. EPA Region III (3HW13) 841 Chestnut Street Philadelphia, Pennsylvania 19107	
Exposure Variables	Value
Air inhaled, adult (m3/d):	20
Air inhaled, age 1 - 6 (m3/d):	12
Air inhaled, age-adjusted (m3/d):	18
Tap water ingested, adult (L/d):	2
Tap water ingested, age 1 - 6 (L/d):	1
Tap water ingested, age-adjusted (L/d):	1.8
Fish ingested (g/d):	54
Soil ingested, adult (mg/d):	100
Soil ingested, age 1 - 6 (mg/d):	200
Soil ingested, age-adjusted (mg/d):	120
2 - Residential:	
Exposure frequency (d/y):	350
Exposure duration, age adjusted (y):	30
Exposure duration, age 1 - 6 (y):	6
Volatilization factor (L/m3):	0.5
3 - Occupational	
Exposure frequency (d/y):	250
Exposure duration (y):	25
* = Contaminant-specific toxicity parameters	

EMERGENCY REMOVAL GUIDELINES

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Acetate	150	92	36	33000	3100
Acetaldehyde	94	94			
Acetone	3700	3700	1400	1000000	78000
Acetone cyanohydrin	2600	100	950	720000	55000
Acetonitrile	220	520	81	61000	4700
Acetophenone	0.042	0.21	1400	1000000	78000
Acifluorfen	470	470	180	130000	10000
Acrolein	730	0.21	270	200000	16000
2Acrylamide	1.8	0.18	0.07	64	27
Acrylic acid	2900	3.1	1100	820000	63000
Acrylonitrile	15	3.4	0.58	530	220
Alachlor	100	10	3.9	3600	1500
Alar	5500	5500	2000	1000000	120000
Aldicarb	7.3	7.3	2.7	2000	160
Aldicarb sulfone	11	11	4.1	3100	230
Aldrin	0.47	0.047	0.019	17	7
Allyl	9100	9100	3400	1000000	200000
Allyl alcohol	180	180	68	51000	3900
Allyl chloride	1800	10	680	510000	39000
Aluminum	110000	110000	39000	1000000	1000000
Aluminum phosphide	15	15	5.4	4100	310
Amdco	11	11	4.1	3100	230
Ametryn	330	330	120	92000	7000
m-Aminophenol	2600	2600	950	720000	55000
4-Aminopyridine	0.73	0.73	0.27	200	16
Amitraz	91	91	34	26000	2000
Ammonia	1000	1000			
Ammonium sulfate	7300	7300	2700	1000000	160000

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Aniline	10	10	55	50000	21000
Antimony and compounds	15	15	5.4	4100	310
Antimony pentoxide	18	18	6.8	5100	390
Antimony potassium tartrate	33	33	12	9200	700
Antimony tetroxide	15	15	5.4	4100	310
Antimony trioxide	15	15	5.4	4100	310
Apollon	470	470	180	130000	10000
Aramite	320	32	13	11000	4800
Arsenic	11	11	4.1	3100	230
Arsenic (as carcinogen)	4.6	0.053	0.18	160	68
Assure	330	330	120	92000	7000
Asulam	1800	1800	680	510000	39000
Atrazine	36	3.6	1.4	1300	540
Avermectin B1	15	15	5.4	4100	310
Azobenzene	73	7.4	2.9	2600	1100
Barium and compounds	2600	5.2	950	720000	55000
Baygon	150	150	54	41000	3100
Bayleton	1100	1100	410	310000	23000
Baythroid	910	910	340	260000	20000
Benefin	11000	11000	4100	1000000	230000
Benomyl	1800	1800	680	510000	39000
Bentazon	91	91	34	26000	2000
Benzaldehyde	610	3700	1400	1000000	78000
Benzene	0.35	2.1	11	9900	4100
Benazidine	0.035	0.0034	0.0014	1.2	0.52
Benzoic acid	150000	150000	54000	1000000	1000000
Benzotrithloride	0.61	0.061	0.024	22	9.2
Benzyl alcohol	11000	11000	4100	1000000	230000
Benzyl chloride	7.8	4.7	1.9	1700	700

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Beryllium and compounds	1.9	0.095	0.073	67	28
Bisphenol A	3.7	3.7	1.4	1000	78
Biphenyls (Talstar)	550	550	200	150000	12000
1,1-Biphenyl	1800	1800	680	510000	39000
Bis(2-chloroethyl)ether	1.2	0.69	0.29	260	110
Bis(2-chloroisopropyl)ether	33	23	4.5	4100	1700
Bis(chloromethyl)ether	0.0061	0.0037	0.0014	1.3	0.54
Bis(2-chloro-1-methylethyl)ether	110	11	4.5	4100	1700
Bis(2-ethylhexyl)phthalate (DEHP)	570	57	23	20000	8500
Bisphenol A	1800	1800	680	510000	39000
Boron (and borates)	3300	210	1200	920000	70000
Boron trifluoride	7.3	7.3			
Bromodichloromethane	21	13	5.1	4600	1900
Bromoethane	12	7.3			
Bromoform(tribromomethane)	120	210	40	36000	15000
Bromomethane	8.7	52	19	14000	1100
4-Bromophenyl phenyl ether	2100	2100	780	590000	45000
Bromophos	180	180	68	51000	3900
Bromoxynil	730	730	270	200000	16000
Bromoxynil octanoate	730	730	270	200000	16000
1,3-Butadiene	1.4	0.81			
1-Butanol	3700	3700	1400	1000000	78000
Butylate	1800	1800	680	510000	39000
Butyl benzyl phthalate	7300	7300	2700	1000000	160000
Butylphenyl butylglycolate	37000	37000	14000	1000000	780000
Cacodylic acid	110	110	41	31000	2300
Cadmium and compounds	18	0.3	6.8	5100	390

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Caprolactam	18000	18000	6800	1000000	390000
Captafol	73	73	27	20000	1600
Captao	2300	230	90	82000	34000
Carbaryl	3700	3700	1400	1000000	78000
Carbazole	400	40	16	14000	6000
Carbofuran	180	180	68	51000	3900
Carbon disulfide	21	100	1400	1000000	78000
Carbon tetrachloride	3.6	15	2.4	2200	550
Carbosulfan	370	370	140	100000	7800
Carboxin	3700	3700	1400	1000000	78000
Chloral	73	73	27	20000	1600
Chloramben	550	550	200	150000	12000
Chloranil	20	2	0.78	710	300
Chlordane	2.2	0.62	0.24	220	47
Chlorimuron-ethyl	730	730	270	200000	16000
Chlorine dioxide	2.1	2.1			
Chloroacetaldehyde	250	250	93	71000	5400
Chloroacetic acid	73	73	27	20000	1600
2-Chloroacetophenone	0.31	0.31			
4-Chloroaniline	150	150	54	41000	3100
Chlorobenzene	39	210	270	200000	16000
Chlorobenzilate	30	3	1.2	1100	440
p-Chlorobenzoic acid	7300	7300	2700	1000000	160000
4-Chlorobenzotrifluoride	730	730	270	200000	16000
2-Chloro-1,3-butadiene	110	1000	95	72000	5500
1-Chlorobutane	2400	15000	5400	1000000	310000
Chloroethane	710	100000	270	200000	16000
2-Chloroethyl vinyl ether	150	910	340	260000	20000
Chloroform	20	9.9	52	47000	7800

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Chloroethane	180	130	24	22000	9200
4-Chloro-2-methylaniline	14	1.4	0.54	490	210
4-Chloro-2,2-methylaniline hydrochloride	17	1.7	0.69	620	260
beta-Chloronaphthalene	2900	2900	1100	820000	63000
o-Chloronitrobenzene	53	32	13	11000	4800
p-Chloronitrobenzene	74	44	18	16000	6600
2-Chlorophenol	180	180	68	51000	3900
2-Chloropropane	170	1000			
Chlorobenzonil	550	73	29	26000	11000
o-Chlorotoluene	120	730	270	200000	16000
Chlorpropham	7300	7300	2700	1000000	160000
Chlorpyrifos	110	110	41	31000	2300
Chlorpyrifos-methyl	370	370	140	100000	7800
Chlorosulfuron	1800	1100	680	510000	39000
Chlorthiophos	29	29	11	8200	630
Chromium III and compounds	37000	0.021	14000	1000000	780000
Chromium VI and compounds	180	0.019	68	51000	3900
Coal tars		0.36			
Coke Oven Emissions		0.37			
Copper and compounds	1400	1400	500	380000	29000
Crotonaldehyde	4.2	0.42	0.17	150	63
Cumene	1500	94	540	410000	31000
Cyanazine	73	73	27	20000	1600
Cyanides					
Barium cyanide	3700	3700	1400	1000000	78000
Copper cyanide	180	180	68	51000	3900
Calcium cyanide	1500	1500	540	410000	31000
Cyanogen	1500	1500	540	410000	31000

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Cyanogen bromide	3300	3300	1200	920000	70000
Cyanogen chloride	1800	1800	680	510000	39000
Free cyanide	730	730	270	200000	16000
Hydrogen cyanide	730	730	270	200000	16000
Potassium cyanide	1800	1800	680	510000	39000
Potassium silver cyanide	7300	7300	2700	1000000	160000
Silver cyanide	3700	1700	1400	1000000	78000
Sodium cyanide	1500	1500	540	410000	31000
Zinc cyanide	1800	1800	680	510000	39000
Cyclohexanone	30000	180000	68000	1000000	1000000
Cyclohexamine	7300	7300	2700	1000000	160000
Cyhalothrin/Karate	180	180	68	51000	3900
Cypermethrin	370	370	140	100000	7800
Cyromazine	270	270	100	77000	5900
Dacthal	18000	18000	6800	1000000	390000
Dalapon	1100	1100	410	310000	23000
Danitol	18	18	6.8	5100	390
DDD	33	3.3	1.3	1200	500
DDE	23	2.3	0.93	840	350
DDT	18	2.3	0.93	840	350
Decabromodiphenyl ether	61	370	140	100000	7800
Demeton	1.5	1.5	0.54	410	31
Diallate	22	13	5.2	4700	2000
Diazinon	33	33	12	9200	700
1,4-Dibromobenzene	61	370	140	100000	7800
Dibromochloromethane	16	9.5	3.8	3400	1400
1,2-Dibromo-3-chloropropane	0.35	2.1	0.23	240	85
1,2-Dibromoethane	0.07	1	0.0037	3.4	1.4
Dibutyl phthalate	1700	3700	1400	1000000	78000

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Dicamba	1100	1100	410	310000	23000
1,2-Dichlorobenzene	370	2100	1200	920000	70000
1,3-Dichlorobenzene	540	3200	1200	910000	70000
1,4-Dichlorobenzene	55	33	13	12000	5000
3,3'-Dichlorobenzidine	18	1.8	0.7	640	270
1,4-Dichloro-2-butene	0.14	0.086			
Dichlorodifluoromethane	390	2100	2700	1000000	160000
1,1-Dichloroethane	810	5200	1400	1000000	78000
1,2-Dichloroethane (EDC)	15	8.8	3.5	3100	1300
1,1-Dichloroethylene	5.4	4.6	0.53	480	200
1,2-Dichloroethylene (cis)	61	370	140	100000	7800
1,2-Dichloroethylene (trans)	120	730	270	200000	16000
1,2-Dichloroethylene (mixture)	55	330	120	92000	7000
2,4-Dichlorophenol	110	110	41	31000	2300
4-(2,4-Dichlorophenoxy) butyric Acid (2,4-DB)	290	290	110	82000	6300
2,4-Dichlorophenoxy- acetic Acid (2,4-D)	61	370	140	100000	7800
1,2-Dichloropropane	7	12	4.6	4200	1800
1,3-Dichloropropane	8.7	6.1	1.8	1600	230
2,3-Dichloropropanol	110	110	41	31000	2300
Dichlorvos	28	2.8	1.1	990	410
Dicofol	18	1.8	0.72	650	270
Dicyclopestadiene	0.42	2.1	410	310000	23000
Dieldrin	0.5	0.05	0.02	18	7.5
Diesel emissions	52	52			
Diethylene glycol, monoethyl ether	210	210			
Diethylene glycol, monoethyl ether	73000	7.000	27000	1000000	1000000

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Diethylformamide	400	400	150	110000	8600
Di(2-ethylhexyl)adipate	6600	660	260	240000	100000
Diethyl phthalate	29000	29000	11000	1000000	630000
Diethylstilbestrol	0.0017	0.00017	0.00067	0.061	0.025
Difenczoquat (Avenge)	2900	2900	1100	820000	63000
Diffubenzuron	730	730	270	200000	16000
Diisopropyl methylphosphonate (DIMP)	2900	2900	1100	820000	63000
Dimethipin	730	730	270	200000	16000
Dimethoate	7.3	7.3	2.7	2000	160
3,3'-Dimethoxybenzidine	570	57	23	20000	8500
Dimethylamine	0.21	0.21			
N,N-Dimethylaniline	73	73	27	20000	1600
2,4-Dimethylaniline	11	1.1	0.42	380	160
2,4-Dimethylaniline hydrochloride	14	1.4	0.54	490	210
3,3'-Dimethylbenzidine	0.87	0.087	0.034	31	13
N,N-Dimethylformamide	3700	310	1400	1000000	78000
1,1-Dimethylhydrazine	3.1	0.23	0.12	110	46
1,2-Dimethylhydrazine	0.22	0.022	0.0085	7.7	3.2
2,4-Dimethylphenol	730	730	270	200000	16000
2,6-Dimethylphenol	22	22	8.1	6100	470
3,4-Dimethylphenol	37	37	14	10000	780
Dimethyl phthalate	370000	370000	140000	1000000	1000000
Dimethyl terephthalate	3700	3700	1400	1000000	78000
4,6-Dinitro-o-cyclohexyl phenol	73	73	27	20000	1600
1,2-Dinitrobenzene	15	15	5.4	4100	310
1,3-Dinitrobenzene	3.7	3.7	1.4	1000	78
1,4-Dinitrobenzene	15	15	5.4	4100	310

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
2,4-Dinitrophenol	73	73	27	20000	1600
Dinitrotoluene mixture	12	1.2	0.46	420	180
2,4-Dinitrotoluene	73	73	27	20000	1600
Dioxach	37	37	14	10000	780
di-n-Octyl phthalate	730	730	270	200000	16000
1,4-Dioxane	730	73	29	26000	11000
Diphenamid	1100	1100	410	310000	23000
Diphenylamine	910	910	340	260000	20000
1,2-Diphenylhydrazine	10	1	0.39	360	150
Diquat	80	80	30	22000	1700
Direct black 38	0.93	0.093	0.037	33	14
Direct blue 6	0.94	0.094	0.039	35	15
Direct brown 35	0.86	0.086	0.034	31	13
Disulfoton	1.5	1.5	0.54	410	31
Diazon	73	73	27	20000	1600
1,4-Dithiane	370	370	140	100000	7800
Dodine	150	150	54	41000	3100
Endosulfan	1.8	1.8	0.68	510	39
Endosulfan	730	730	270	200000	16000
Endrin	11	11	4.1	3100	230
Epichlorohydrin	73	10	27	20000	1600
1,2-Epoxybutane	210	210			
EPIC (3-Ethyl dipropylthiocarbamate)	910	910	340	260000	20000
Ethopam (2-chloroethyl phosphonic acid)	180	180	68	51000	3900
Ethion	18	18	6.8	5100	390
2-Ethoxyethanol	15000	2100	5400	1000000	310000
2-Ethoxyethanol acetate	11000	11000	4100	1000000	230000

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Ethyl acetate	31000	33000	12000	1000000	700000
Ethyl acrylate	170	17	6.6	6000	2500
Ethylbenzene	1300	10000	1400	1000000	78000
Ethylene cyanohydrin	11000	11000	4100	1000000	230000
Ethylene diamine	730	730	270	200000	16000
Ethylene glycol	73000	73000	27000	1000000	1000000
Ethylene glycol, monobutyl ether	210	210			
Ethylene oxide	7.8	2.3	0.31	280	120
Ethylene thiourea (ETU)	2.9	1.3	0.53	480	63
Ethyl ether	1200	7300	2700	1000000	160000
Ethyl methacrylate	3300	3300	1200	920000	70000
Ethyl p-nitrophenyl phenylphosphorothioate	0.37	0.37	0.14	100	7.8
Ethylthiourea	0.057	0.0057	0.0023	2	0.85
Ethylphthalyl ethyl glycolate	110000	110000	41000	1000000	1000000
Express	290	290	110	82000	6300
Penamiphos	9.1	9.1	3.4	2600	200
Fluometuron	470	470	180	130000	10000
Fluoride	2200	2200	810	610000	47000
Fluoridone	2900	2900	1100	820000	63000
Flurprimidol	730	730	270	200000	16000
Flutolanil	2200	2200	810	610000	47000
Fluvalinate	370	370	140	100000	7800
Folpet	2300	230	90	82000	34000
Fomesafen	42	4.2	1.7	1500	630
Fonofos	73	73	27	20000	1600
Formaldehyde	7300	18	2700	1000000	160000
Formic Acid	73000	73000	27000	1000000	1000000

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Formyl-al	110000	110000	41000	1000000	1000000
Parath	37	37	14	10000	780
Parathion	2.1	0.21	0.083	75	31
Permethrin	110	520	41	31000	2300
Permethrin	0.16	0.016	0.0063	5.7	2.4
Permethrin	270	27	11	9500	4000
Phosphoric acid-ammonium	15	15	5.4	4100	310
Glycidoldehyde	15	10	5.4	4100	310
Glyphosate	3700	3700	1400	1000000	78000
Haloxypyr-methyl	1.8	1.8	0.68	510	39
Harmon	470	470	180	130000	10000
Heptachlor	0.29	0.18	0.07	64	27
Heptachlor epoxide	0.079	0.088	0.035	31	10
Hexabromobenzene	12	73	27	20000	1600
Hexachlorobenzene	0.83	0.5	0.2	180	75
Hexachlorobutadiene	12	10	4	3700	1500
HCH (alpha)	1.3	0.13	0.05	45	19
HCH (beta)	4.4	0.44	0.18	160	66
HCH (gamma) Lindane	6.1	0.61	0.24	220	92
HCH-technical	4.4	0.45	0.18	160	66
Hexachlorocyclopentadiene	0.15	0.73	95	72000	5500
Hexachlorodibenzo-p-dioxin mixture (HxCDD)	0.0013	0.00018	0.000051	0.046	0.019
Hexachloroethane	6.1	37	14	10000	780
Hexachlorophene	11	11	4.1	3100	230
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	73	7.3	2.9	2600	1100
n-Hexane	350	2100	810	610000	47000
Hexazinone	1200	1200	450	340000	26000

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Hydrazine, hydrazine sulfate	2.7	0.047	0.11	95	40
Hydrogen chloride	73	73			
Hydrogen sulfide	110	9.4	41	31000	2300
p-Hydroquinone	1500	1500	540	410000	31000
Imazalil	470	470	180	130000	10000
Imazaquin	9100	9100	3400	1000000	200000
Iprodione	1500	1500	540	410000	31000
Isobutanol	1800	11000	4100	1000000	230000
Isophorone	7300	840	330	300000	130000
Isopropalin	550	550	200	150000	12000
Isopropyl methyl phosphonic acid (IMPA)	3700	3700	1400	1000000	78000
Isoxaben	1800	1800	680	510000	39000
Kepon	0.44	0.044	0.018	16	6.6
Lactofen	73	73	27	20000	1600
Lead (tetramethyl)	0.0037	0.0037	0.0014	1	0.078
Linuron	73	73	27	20000	1600
Lithium	730	730	270	200000	16000
Lindax	7300	7300	2700	1000000	160000
Malathion	730	730	270	200000	16000
Maleic anhydride	3700	3700	1400	1000000	78000
Maleic hydrazide	18000	18000	6800	1000000	390000
Malononitrile	0.73	0.73	0.27	200	16
Mancozeb	1100	1100	410	310000	23000
Maneb	180	180	68	51000	3900
Manganese and compounds	180	4.2	68	51000	3900
Mephosfolan	3.3	3.3	1.2	920	70
Mepiquat chloride	1100	1100	410	310000	23000
Mercury (methyl)	11	11	4.1	3100	230

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Mercury (inorganic)	11	3.1	4.1	3100	230
Merphos	1.1	1.1	0.41	310	23
Merphos oxide	1.1	1.1	0.41	310	23
Metoluxyl	2200	2200	810	610000	47000
Methacrylonitrile	3.7	7.3	1.4	1000	78
Methamidophos	1.8	1.8	0.68	510	39
Methanol	18000	18000	6800	1000000	390000
Methidathion	37	37	14	10000	780
Methionyl	910	910	340	260000	20000
Methoxychlor	180	180	68	51000	3900
2-Methoxyethanol	150	210	54	41000	3100
2-Methoxyethanol acetate	73	73	27	20000	1600
2-Methoxy-5-nitroaniline	170	17	6.9	6200	2600
Methyl acetate	37000	37000	14000	1000000	780000
Methyl acrylate	1100	1100	410	310000	23000
2-Methylaniline (o-toluidine)	33	3.3	1.3	1200	500
2-Methylaniline hydrochloride	44	4.4	1.8	1600	660
Methyl chlorocarbonate	37000	37000	14000	1000000	780000
2-Methyl-4-chlorophen- oxyacetic acid	18	18	6.8	5100	390
4-(2-Methyl-4-chlorophen- oxy) butyric acid (MCPB)	370	370	140	100000	7800
2-(2-Methyl-4-chlorophen- oxy) propionic acid	37	37	14	10000	780
2-(2-Methyl-1,4-chloro- phenoxy) propionic acid (MCPA)	37	37	14	10000	780
Methylcyclohexane	31000	31000			
4,4'-Methylenediphenyl isocyanate	0.035	0.21			

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
4,4'-Methylenbisbenzene amine	32	3.2	1.3	1100	480
4,4'-Methylene bis(2-chloroaniline)	26	6.1	2.4	2200	550
4,4'-Methylene bis(N,N'-dimethylaniline)	170	17	6.9	6200	2600
Methylene bromide	61	370	140	100000	7800
Methylene chloride	510	410	42	38000	16000
Methyl ethyl ketone	22000	10000	8100	1000000	470000
Methyl hydrazine	7.3	0.73	0.29	260	110
Methyl isobutyl ketone	1800	830	680	510000	39000
Methyl methacrylate	2900	2900	1100	820000	63000
2-Methyl-5-nitroaniline	240	24	9.6	8700	3600
Methyl parathion	9.1	9.1	3.4	2600	200
2-Methylphenol (o-cresol)	1800	1800	680	510000	39000
3-Methylphenol (m-cresol)	1800	1800	680	510000	39000
4-Methylphenol (p-cresol)	180	180	68	51000	3900
Methyl styrene (mixture)	60	420	81	61000	4700
Methyl styrene (alpha)	430	2600	950	720000	55000
Methyl tertbutyl ether (MTBE)	160	5200	68	51000	3900
Metolaclor (Dual)	5500	5500	2000	1000000	120000
Metribuzin	910	910	340	260000	20000
Mirex	4.4	0.44	0.18	160	66
Molinate	73	73	27	20000	1600
Molybdenum	180	180	68	51000	3900
Monochloramine	3700	3700	1400	1000000	78000
Naled	73	73	27	20000	1600
Napropamide	3700	3700	1400	1000000	78000
Nickel (soluble salts)	730	730	270	200000	16000
Nickel refinery dust		0.95			

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Nickel subsulfide		0.47			
Nitropyrin	55	55	20	15000	1200
Nitrate	58000	58000	22000	1000000	1000000
Nitric Oxide	3700	3700	1400	1000000	78000
Nitrite	3700	3700	1400	1000000	78000
2-Nitroaniline	2.2	2.1	0.81	610	47
3-Nitroaniline	110	110	41	31000	2300
4-Nitroaniline	110	110	41	31000	2300
Nitrobenzene	3.4	21	6.8	5100	390
Nitroformalin	2600	2600	950	720000	55000
Nitrofurazone	5.3	0.085	0.21	190	80
Nitrogen dioxide	37000	37000	14000	1000000	780000
Nitroguanidine	3700	3700	1400	1000000	78000
4-Nitrophenol	2300	2300	840	630000	48000
2-Nitropropane	210	0.085			
N-Nitrosodi-n-butylamine	1.5	0.14	0.058	53	22
N-Nitrosodichthylamine	2.8	0.28	0.11	100	43
N-Nitrosodimethylamine	0.053	0.0053	0.0021	1.9	0.8
N-Nitrosodimethylamine	0.16	0.016	0.0062	5.6	2.3
N-Nitrosodiphenylamine	1600	160	64	58000	24000
N-Nitroso di-n-propylamine	1.1	0.11	0.045	41	17
N-Nitroso-N-methylchthylamine	0.36	0.036	0.014	13	5.4
N-Nitrosopyrrolidine	3.8	0.37	0.15	140	57
m-Nitrobenzene	61	370	140	100000	7800
p-Nitrobenzene	61	370	140	100000	7800
Norfurazone	1500	1500	540	410000	31000
NuStar	26	26	9.5	7200	550
Octabromodiphenyl ether	110	110	41	31000	2300

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Octahydro-1357-tetranitro-1357-tetrazocine (HMX)	1800	1800	680	510000	39000
Octamethylpyrophosphoramide	73	73	27	20000	1600
Oryzalin	1800	1800	680	510000	39000
Oxadiazon	180	180	68	51000	3900
Oxamyl	910	910	340	260000	20000
Oxyfluorfen	110	110	41	31000	2300
Paclobutrazol	470	470	180	130000	10000
Paraquat	160	160	61	46000	3500
Parathion	220	220	81	61000	4700
Pebulate	1800	1800	680	510000	39000
Pendimethalin	1500	1500	540	410000	31000
Pentabromo-6-chloro-cyclohexane	350	35	14	12000	5200
Pentabromodiphenyl ether	73	73	27	20000	1600
Pentachlorobenzene	4.9	29	11	8200	630
Pentachloronitrobenzene	5.1	3.1	1.2	1100	460
Pentachlorophenol	66	6.6	2.6	2400	1000
Permethrin	1800	1800	680	510000	39000
Phenamedipham	9100	9100	3400	1000000	200000
Phenol	22000	22000	8100	1000000	470000
m-Phenylcaediamine	220	220	81	61000	4700
p-Phenylcaediamine	6900	6900	2600	1000000	150000
Phenylmercuric acetate	2.9	2.9	1.1	820	63
Phenylphenol	4100	410	160	150000	62000
Phorate	7.3	7.3	2.7	2000	160
Phosmet	730	730	270	200000	16000
Phosphine	11	0.31	4.1	3100	230
Phosphorus (white)	0.73	0.73	0.27	200	16

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
p-Phthalic acid	37000	37000	14000	1000000	780000
Phthalic anhydride	73000	13000	27000	1000000	1000000
Picloram	2600	2600	950	720000	55000
Phosphoromethyl	370	370	140	100000	7800
Polybrominated biphenyls	0.26	0.09	0.035	32	5.5
Polychlorinated biphenyls (PCBs)	1	0.1	0.041	37	16
Aroclor 1016	2.6	2.6	0.95	720	55
Polychlorinated terphenyls (PCTs)	1.8	0.18	0.07	64	27
Polynuclear aromatic hydrocarbons					
Acenaphthene	2200	2200	810	610000	47000
Anthracene	11000	11000	4100	1000000	230000
Benzo(a)anthracene	11	1.3	0.43	390	160
Benzo(b)fluoranthene	11	1.3	0.43	390	160
Benzo(k)fluoranthene	110	13	4.3	3900	1600
Benzo(a)pyrene	1.1	0.13	0.043	39	16
Chrysene	110000	13000	4300	1000000	1000000
Dibenz(a,h)anthracene	1.1	0.13	0.043	39	16
Fluoranthene	1500	1500	540	410000	31000
Phenanthrene	1500	1500	540	410000	31000
Indeno(1,2,3-cd)pyrene	11	1.3	0.43	390	160
Naphthalene	1500	1500	540	410000	31000
Pyrene	1100	1100	410	310000	23000
Prochloraz	53	5.3	2.1	1900	800
Proflurnin	220	220	81	61000	4700
Prometon	550	550	200	150000	12000
Prometryn	150	150	54	41000	3100
Prometide	2700	2700	1000	770000	59000

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Propachlor	470	470	180	130000	10000
Propanil	180	180	68	51000	3900
Propargite	730	730	270	200000	16000
Propargyl alcohol	73	73	27	20000	1600
Propazine	730	730	270	200000	16000
Propham	730	730	270	200000	16000
Propiconazole	470	470	180	130000	10000
Propylene glycol	730000	730000	270000	1000000	1000000
Propylene glycol, monoethyl ether	26000	26000	9500	1000000	550000
Propylene glycol, monomethyl ether	26000	21000	9500	1000000	550000
Propylene oxide	33	62	1.3	1200	500
Pursuit	9100	9100	3400	1000000	200000
Pydin	910	910	340	260000	20000
Pyridine	37	37	14	10000	780
Quinalphos	18	18	6.8	5100	390
Quinoline	0.66	0.066	0.026	24	10
Reamethrin	1100	1100	410	310000	23000
Ronnel	1800	1800	680	510000	39000
Rotenone	150	150	54	41000	3100
Savay	910	910	340	260000	20000
Selenious Acid	180	180	68	51000	3900
Selenium	180	180	68	51000	3900
Selenourea	180	180	68	51000	3900
Sethoxydim	3300	3300	1200	920000	70000
Silver and compounds	180	180	68	51000	3900
Simazine	66	6.6	2.6	2400	1000
Sodium azide	150	150	54	41000	3100

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Sodium dichloromethane	30	3	1.2	1100	440
Sodium fluoracetate	0.73	0.73	0.27	200	16
Sodium metavanadate	37	37	14	10000	780
Strontium, stable	22000	22000	8100	1000000	470000
Strychnine	11	11	4.1	3100	230
Styrene	1600	10000	2700	1000000	160000
Synthane	910	9.0	340	260000	20000
2,3,7,8-TCDD (dioxin)	0.000053	0.0000033	0.0000021	0.0019	0.0008
Tebuthiuron	2600	2600	950	720000	55000
Temephos	730	730	270	200000	16000
Terbacil	470	470	180	130000	10000
Terbufos	0.91	0.91	0.34	260	20
Terbutryn	37	37	14	10000	780
1,2,4,5-Tetrachlorobenzene	1.8	11	4.1	3100	230
1,1,1,2-Tetrachloroethane	51	31	12	11000	4600
1,1,2,2-Tetrachloroethane	6.6	3.9	1.6	1400	600
Tetrachloroethylene (PCE)	61	370	6.1	5500	2300
2,3,4,6-Tetrachlorophenol	1100	1100	410	310000	23000
p,p',d,d'-Tetrachlorotoluene	0.066	0.04	0.016	14	6
Tetrachlorovinylphos	330	33	13	12000	5000
Tetraethylthiopyrophosphate	18	18	6.8	5100	390
Thallous oxide	2.6	2.6	0.95	720	55
Thallous acetate	3.3	3.3	1.2	920	70
Thallous carbonate	2.9	2.9	1.1	820	63
Thallous chloride	2.9	2.9	1.1	820	63
Thallous nitrate	3.3	3.3	1.2	920	70
Thallous selenite	3.3	3.3	1.2	920	70

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Thallium sulfate	2.9	2.9	1.1	820	63
Thiobencarb	370	370	140	100000	7800
2-(Thiocyanomethylthio)-benzothiazole (TCMTB)	1100	1100	410	310000	23000
Thiofanox	11	11	4.1	3100	230
Thiophanate-methyl	2900	2900	1100	820000	63000
Thiram	180	180	68	51000	3900
Tin and compounds	22000	22000	8100	1000000	470000
Toluene	750	4200	2700	1000000	160000
Toluene-2,4-diamine	2.5	0.25	0.099	89	37
Toluene-2,5-diamine	22000	22000	8100	1000000	470000
Toluene-2,6-diamine	7300	7300	2700	1000000	160000
Toxaphene	7.3	0.71	0.29	240	110
Tralomethrin	270	270	100	77000	5900
Triallate	470	470	180	130000	10000
Trisulfuron	370	370	140	100000	7800
1,2,4-Tribromobenzene	30	180	68	51000	3900
Tributyltin oxide (TBTO)	1.1	1.1	0.41	310	23
2,4,6-Trichloroaniline	230	23	9.3	8400	3500
2,4,6-Trichloroaniline hydrochloride	280	28	11	9900	4100
1,2,4-Trichlorobenzene	18	94	140	100000	7800
1,1,1-Trichloroethane	1300	10000	1200	920000	70000
1,1,2-Trichloroethane	24	14	5.5	5000	2100
Trichloroethylene (TCE)	37	130	29	26000	4700
Trichlorofluoromethane	1300	7300	4100	1000000	230000
2,4,5-Trichlorophenol	1300	3700	1400	1000000	78000
2,4,6-Trichlorophenol	730	74	29	26000	11000
2,4,5-Trichlorophenoxy-acetic Acid	370	370	140	100000	7800

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
2-(2,4,5-Trichlorophenoxy) propionic acid	290	210	110	82000	6300
1,1,2-Trichloropropane	30	110	68	51000	3900
1,2,3-Trichloropropane	37	270	81	61000	4700
1,2,3-TCP as carcinogen	0.49	0.3	0.12	110	44
1,2,3-Trichloropropane	30	110	68	51000	3900
1,1,2-Trichloro-1,2,2-tri- fluoroethane	59000	310000	410000	1000000	1000000
Tridiphane	110	110	41	31000	2300
Trichthyamine	73	73			
Trifluoride	270	100	41	37000	5900
Trimethyl phosphate	220	22	8.5	7700	3200
1,3,5-Trinitrobenzene	1.8	1.8	0.68	510	39
Trinitrophenylmethyl- nitramine	370	370	140	100000	7800
2,4,6-Trinitrobenzene	18	18	6.8	5100	390
Uranium (soluble salts)	110	110	41	31000	2300
Vanadium	260	260	95	72000	5500
Vanadium pentoxide	330	330	120	92000	7000
Vanadyl sulfate	730	730	270	200000	16000
Vanadium sulfate	730	730	270	200000	16000
Vernam	37	37	14	10000	780
Vinclozolin	910	910	340	260000	20000
Vinyl acetate	37000	2100	14000	1000000	780000
Vinyl bromide	5.2	51			
Vinyl chloride	2.3	2.7	0.17	150	63
Warfarin	11	11	4.1	3100	230
m-Xylene	1200	7300			
o-Xylene	1200	7300			
p-Xylene	520	3100			

Contaminant	Tap water (µg/l)	Ambient air (µg/m ³)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Xylene (mixed)	12000	73000	27000	1000000	1000000
Zinc	11000	11000	4100	1000000	230000
Zinc phosphide	11	11	4.1	3100	230
Zinc	1800	1800	680	510000	39000

REMOVAL NUMERIC ACTION LEVELS FOR CONTAMINATED DRINKING WATER SITES
(November 1992)

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Emergency Response Division
Office of Solid Waste and Emergency Response
U.S. Environmental Protection Agency
Washington, DC 20460

Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH -STAR- Level (ug/L)	
Acenaphthene	83329	-	-	2,100	-	-	-	2,100
Acetone	67641	D	-	3,500	-	-	-	3,500
Acifluorfen (Tackle)	62475599	B2	100	400	100	-	-	100
Acrylamide (2-Propenamide)	79061	B2	1	7	20	treat/0	1	1
Acrylonitrile	107131	B1	6	-	-	-	-	6
Adipates (Diethylhexyl)	103231	C	-	20,000	-	500/500	-	5,000
Alachlor	15972608	B2	40	400	-	2/0	40	40
Aldicarb (Temik)	116063	D	-	7	-	3/1	-	7
Aldicarb sulfone	1646884	D	-	7	-	2/1	-	7
Aldicarb sulfoxide	-	D	-	7	-	4/1	-	7

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH -STAR- Level (ug/L)	
Aldrin	309002	B2	0.2	1	0.3	-	-	0.2
Ametern	834128	D	-	300	900	-	-	300
Ammonium sulfamate	7773060	D	-	8,000	20,000	-	-	8,000
Anthracene	120127	D	-	11,000	-	-	-	11,000
Atrazine	1912249	C	-	200	60	3/3	30	30
Baygon	114261	C	-	100	40	-	-	40
Bentazon	25057890	D	-	90	300	-	-	90
Benz(a)anthracene	56553	B2	-	-	-	0.1/0	-	0.1
Benzene	71432	A	100	-	-	5/0	100	100
Benzo(a)pyrene	50328	B2	-	-	-	0.2/0	-	0.2
Benzo(b)fluoranthene	205992	B2	-	-	-	0.2/0	-	0.2
Benzo(k)fluoranthene	207089	B2	-	-	-	0.2/0	-	0.2
bis-2-Chloroisopropyl ether	108601	D	-	1,000	4,000	-	-	1,000
Bromacil	314409	C	-	5,000	3,000	-	-	3,000

REMOVAL NUMERIC ACTION LEVELS FOR CONTAMINATED DRINKING WATER SITES
(November 1992)

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer-term HA Child (ug/L)	MCL/MCLG (ug/L)	URTH-STAR-Level (ug/L)	Removal Action Level (ug/L)
Bromochloromethane	74975	D	-	500	1,000	-	-	500
Bromodichloromethane	75274	B2	60	700	4,000	100/-	-	60
Bromoform	75252	B2	400	700	2,000	100/-	-	400
Bromomethane (Methyl bromide)	74839	D	-	50	100	-	-	50
Butanone (2-) (see Methyl ethyl ketone)								
Butyl benzyl phthalate	85687	C	-	6,000	-	100/0	-	6,000
Butylate	2008415	D	-	2,000	1,000	-	-	1,000
Carbaryl	63252	D	-	4,000	1,000	-	-	1,000
Carbofuran	1563662	E	-	200	50	40/40	50	50
Carbon tetrachloride	56235	B2	30	30	70	5/0	30	30
Carboxin	5234684	D	-	4,000	1,000	-	-	1,000
Chloral hydrate (Trichloroacetaldehyde monohydrate)	302170	C	-	70	200	-	-	70
Chloramben	133904	D	-	500	200	-	-	200

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(November 1992)

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer-term HA Child (ug/L)	MCL/MCLG (ug/L)	URTH-STAR-Level (ug/L)	Removal Action Level (ug/L)
Chlordane	57749	B2	3	2	-	2/0	2	2
Chlorobenzene (see Monochlorobenzene)								
Chlorodibromomethane (Dibromochloromethane)	124481	C	-	700	2,000	100/-	-	700
Chloroform (Trichloromethane)	67663	B2	600	400	100	100/-	-	100
Chloromethane (Methyl chloride)	74873	C	-	100	400	-	-	100
Chlorophenol (2-)	95578	D	-	200	50	-	-	50
Chlorothalonil	1897456	B2	150	500	200	-	-	150
Chlorotoluene, o-	95498	D	-	700	2,000	-	-	700
Chlorotoluene, p-	106434	D	-	700	2,000	-	-	700
Chlorpyrifos	2921882	D	-	100	30	-	-	30
Chrysene	218019	B2	-	-	-	0.2/0	-	0.2
Cumene (see Isopropylbenzene)								
Cyanazine	21725462	C	-	70	20	-	-	20

REMOVAL NUMERIC ACTION LEVELS FOR CONTAMINATED DRINKING WATER SITES
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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer-term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH-STAR-Level (ug/L)	Removal Action Level (ug/L)
2,4-D(2,4-Dichlorophenoxyacetic acid)	94757	D	-	400	100	70/70	100	100
Dacthal (DCPA)	1861321	D	-	20,000	5,000	-	-	5,000
Delapon	75990	D	-	900	300	200/200	-	300
Di[2-ethylhexyl]adipate	103231	C	3,000	20,000	20,000	400/400	-	4,000
Diazinon	333415	E	-	3	5	-	-	3
Dibenzo[a,h]anthracene	53703	B2	-	-	-	0.3/0	-	0.3
Dibromoacetonitrile	3252435	C	-	800	2,000	-	-	800
Dibromochloromethane (see Chlorodibromomethane)								
Dibromochloropropane (DBCP)	96128	B2	3	-	-	0.2/0	3	3
Dibromomethane (Methylene bromide)	74953	D	-	-	-	-	-	-
Dibutyl phthalate (di-n-Butyl phthalate)	84742	D	-	4,000	-	-	-	4,000
Dicamba	1918009	D	-	1,000	300	-	-	300
Dichloroacetic acid	79436	B2	-	300	5,000	-	-	300

REMOVAL NUMERIC ACTION LEVELS FOR CONTAMINATED DRINKING WATER SITES
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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer-term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH-STAR-Level (ug/L)	Removal Action Level (ug/L)
Dichloroacetonitrile	3018120	C	-	300	800	-	-	300
Dichlorobenzene -o (1,4)	95501	D	-	3,000	9,000	600/600	3,000	3,000
Dichlorobenzene -m (1,2-)	541731	D	-	3,000	9,000	600/600	-	3,000
Dichlorobenzene -p (1,3-)	106467	C	-	4,000	10,000	75/75	750	750
Dichlorodifluoromethane (Freon-12)	75718	D	-	5,000	9,000	-	-	5,000
Dichloroethane (1,1-)	75343	C	-	3,500	-	-	-	3,500
Dichloroethane (1,2-) (Ethylene dichloride)	107062	B2	40	-	700	5/0	40	40
Dichloroethylene (1,1-)	75354	C	-	400	1,000	7/7	70	70
Dichloroethylene (cis- 1,2-)	156592	D	-	400	3,000	70/70	400	400
Dichloroethylene (trans- 1,2-)	156605	D	-	600	2,000	100/100	600	600
Dichloromethane (Methylene chloride)	75092	B2	500	2,000	-	5/0	-	500
Dichlorophenol (2,4-)	120832	D	-	100	30	-	-	30
Dichloropropane (1,2-)	78875	B2	60	-	-	5/0	60	60

REMOVAL NUMERIC ACTION LEVELS FOR CONTAMINATED DRINKING WATER SITES
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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH- STAR- Level (ug/L)	
Dichloropropene(1,3-)(cis and trans)	542756	B2	20	10	30	-	-	10
Dieldrin	60571	B2	0.2	2	0.50	-	-	0.2
Diethyl phthalate	84662	D	-	30,000	-	-	-	30,000
Diethylhexyl (see Adipates)								
Diethylhexyl phthalate	117817	B2	300	700	-	4/0	-	300
Dimethrin	70382	D	-	10,000	10,000	-	-	10,000
Dimethyl methylphosphonate	756796	C	700	7,000	2,000	-	-	2,000
Dimethyl phthalate	131113	D	-	350,000	-	-	-	350,000
DIMP (Diisopropyl methyl phosphonate)	1445756	D	-	3,000	8,000	-	-	3,000
Dinitrobenzene (1,3-)	99650	D	-	5	40	-	-	5
Dinitrotoluene (2,4-)	121142	B2	5	100	300	-	-	5
Dinitrotoluene (2,6-)	25321146	B2	5	40	400	-	-	5
Dinoseb	88857	D	-	40	10	7/7	-	10
Dioxane p- (1,4-)	123911	B2	700	-	-	-	-	700

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(November 1992)

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH- STAR- Level (ug/L)	
Dioxin (see 2,3,7,8-TCDD)							-	
Diphenamid	957517	D	-	1,000	300	-	-	300
Diphenylamine	122394	D	-	1,000	300	-	-	300
Diquat	85007	D	-	80	-	20/20	-	80
Disulfoton	298044	B	-	1	3	-	-	1
Dithiane (1,4-)	505293	D	-	400	400	-	-	400
Diuron	330541	D	-	70	300	-	-	70
Endothall	145733	D	-	700	200	100/100	-	200
Endrin	72208	D	-	10	3	2/2	-	3
Epichlorohydrin	106898	B2	400	70	70	rest/0	70	70
Ethylbenzene	100414	D	-	3,000	1,000	700/700	1,000	1,000
Ethylene dibromide (1,2-)(EDB)	106934	B2	0.04	-	-	0.05/0	0.05	0.05
Ethylene dichloride (see 1,2-Dichloroethane)								

REMOVAL NUMERIC ACTION LEVELS FOR CONTAMINATED DRINKING WATER SITES
(November 1992)

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer-term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH-STAR-Level (ug/L)	Removal Action Level (ug/L)
Ethylene glycol	107211	D	-	40,000	6,000	-	-	6,000
Ethyl ether	60297	-	-	7,000	-	-	-	7,000
Ethylene thiourea (ETU)	96457	B2	30	3	100	-	-	3
Fenamiphos	22224926	D	-	9	5	-	-	5
Fluometuron	2164172	D	-	400	2,000	-	-	400
Fluorene	86737	D	-	1,400	-	-	-	1,400
Fluorotrichloromethane (Freon-11)	75694	D	-	10,000	3,000	-	-	3,000
Fonofos	944229	D	-	70	20	-	-	20
Formaldehyde	50000	B1	-	5,000	5,000	-	-	5,000
Freon-11 (see Fluorotrichloromethane)								
Freon-12 (see Dichlorodifluoromethane)								
Freon-113 (1,1,2-Trichloro-1,2,2,-trifluoroethane)	76131	-	-	1,100,000	-	-	-	1,100,000
Glyphosate	1071836	D	-	4,000	1,000	700/700	-	1,000

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer-term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH-STAR-Level (ug/L)	Removal Action Level (ug/L)
Heptachlor	76448	B2	0.8	20	5	0.4/0.4	0.8	0.8
Heptachlor epoxide	1024573	B2	0.4	0.4	-	0.2/0	0.4	0.4
Hexachlorobenzene	118741	B2	2	38	50	1/0	-	2
Hexachlorobutadiene	87683	C	-	70	100	-	-	70
Hexachlorocyclohexane, gamma (see Lindane)								
Hexachlorocyclopentadiene	77474	D	-	200	-	50/50	-	200
Hexachloroethane	67721	C	-	40	100	-	-	40
Hexane (n-)	110543	D	-	-	4,000	-	-	4,000
Hexazinone	51235042	D	-	1,000	3,000	-	-	1,000
HMX (Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine)	2691410	D	-	2,000	5,000	-	-	2,000
Indeno[1,2,3-c,d]pyrene	193395	B2	-	-	-	0.4/0	-	0.4
Isophorone	78591	C	0.03	7,000	15,000	-	-	7,000

REMOVAL NUMERIC ACTION LEVELS FOR CONTAMINATED DRINKING WATER SITES
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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH -STAR- Level (ug/L)	
Isopropyl methylphosphorate	6838933	D	-	4,000	30,000	-	-	4,000
Isopropylbenzene (Cumene)	88828	-	-	14,000	-	-	-	14,000
Kerb (see Pronamide)								
Lindane (Hexachlorocyclohexane, gamma)	58899	C	3	10	30	0.2/0.2	2	2
Malathion	121755	D	-	800	200	-	-	200
Maleic hydrazide	123331	D	-	20,000	5,000	-	-	5,000
MCPA (4-Chloro-2-methylphenoxy)- acetic acid	94746	E	-	50	100	-	-	50
Methomyl	16752775	D	-	900	300	-	-	300
Methoxychlor	72435	D	-	200	50	40/40	50	50
Methyl bromide (see Bromomethane)								
Methyl chloride (see Chloromethane)								
Methyl ethyl ketone (2-Butanone)	78933	-	-	-	-	-	-	-
Methyl parathion	298000	D	-	9	30	-	-	9

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH -STAR- Level (ug/L)	
Methyl tert butyl ether	1634044	D	-	200	500	-	-	200
Methylene bromide (see Dibromomethane)								
Methylene chloride (see Dichloromethane)								
Metolachlor	51218452	C	-	5,000	2,000	-	-	2,000
Metribuzin	21087649	D	-	900	300	-	-	300
Monochloroacetic acid (Chloroacetic acid)	79118	-	-	70	-	-	-	70
Monochlorobenzene (Chlorobenzene)	108907	D	-	700	2,000	100/100	700	700
Naphthalene	91203	D	-	100	400	-	-	100
Nitroguanidine	556887	D	-	4,000	10,000	-	-	4,000
Nitrophenols p-	25154556	D	-	300	800	-	-	300
Octachlorocamphene (see Toxaphene)								
Oxyamyl	23135220	E	-	900	200	200/200	-	200
Paraquat	1910425	E	-	200	50	-	-	50
Pentachloronitrobenzene (PCNB)	82688	C	-	100	-	-	-	100

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH -STAR- Level (ug/L)	
Pentachlorophenol	87865	B2	30	30	300	1/0	30	30
Perchloroethylene (see Tetrachloroethylene)								
Phenol	108952	D	-	20,000	6,000	-	-	6,000
Picloram	1918021	D	-	2,000	700	500/500	-	700
Polychlorinated biphenyls (PCBs)	1336363	B2	0.5	-	1	0.5/0	0.5	0.5
Prometon	1610180	D	-	500	200	-	-	200
Pronamide (Kerb)	23950585	C	-	3,000	800	-	-	800
Propachlor	1918167	D	-	500	100	-	-	100
Propazine	139402	C	-	700	500	-	-	500
Propham	122429	D	-	600	5,000	-	-	600
Pyrene	129000	D	-	1,100	-	-	-	1,100
RDX (Hexahydro-1,3,5-trinitro- 1,3,5-triazine)	121824	C	30	100	100	-	-	100
Simazine	122349	C	-	200	70	4/4	-	40

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁶ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH -STAR- Level (ug/L)	
Styrene	100425	C	100	7,000	2,000	100/100	1,000	1,000
T (2,4,5-)	93765	D	-	350	800	-	-	350
Tackle (see Acifluorfen)		-						
TCDD (2,3,7,8-) (v) (Dioxin)	1746016	B2	0.00002	0.00004	0.00001	0.00005/0	-	0.00005
Tebuthiuron	34014181	D	-	2,000	700	-	-	700
Temik (see Aldicarb)								
Terbacil	5902512	E	-	400	300	-	-	300
Terbufos	13071799	D	-	5	1	-	-	1
Tetrachloroethane (1,1,1,2-)	630206	C	100	1,000	900	-	-	900
Tetrachloroethane (1,1,2,2-)	79345	C	20	-	-	-	-	2
Tetrachloroethylene (Perchloroethylene)	127184	B2	70	500	1,000	5/0	70	70
Toluene	108883	D	-	7,000	3,000	1,000	3,000	3,000
Toxaphene (Octachlorocamphene)	8001352	B2	3	3	-	3/0	3	3

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH -STAR- Level (ug/L)	
TP (2,4,5-) (2(2,4,5-trichloro- phenoxypropionic acid))	93721	D	-	300	70	50/50	70	70
Trichloroacetaldehyde (Chloral) (see Chloral hydrate)								
Trichloroacetic acid	76039	C	-	1,300	4,000	-	-	1,300
Trichlorobenzene (1,2,4-)	120821	D	-	400	100	70/70	-	100
Trichlorobenzene (1,3,5-)	108703	D	-	200	600	-	-	200
Trichloroethane (1,1,1-)	71556	D	-	1,000	40,000	200/200	1,000	1,000
Trichloroethane (1,1,2-)	79005	C	-	100	400	5/3	-	30
Trichloroethylene (Trichloroethene)	79016	B2	300	300	-	5/0	300	300
Trichloromethane (see Chloroform)								
Trichlorophenol (2,4,6-)	88062	B2	300	-	-	-	-	300
Trichlorophenoxypropionic acid (2(2,4,5-)) (see 2,4,5-TP)								
Trichloropropane (1,2,3-)	96184	B2	-	200	600	-	-	200

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Chemical ORGANICS	CAS#	Cancer Risk		Standards and Health Advisories				Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA Child (ug/L)	MCL/ MCLG (ug/L)	URTH -STAR- Level (ug/L)	
1,1,2,Trichloro-1,2,2-trifluoroethane (see Freon 113)								
Trifluralin	1582098	C	-	300	80	-	-	80
Trinitroglycerol	55630	C	-	-	5	-	-	5
Trinitrotoluene (2,4,6-)	118967	C	100	20	20	-	-	20
Vinyl chloride	75014	A	1.5	-	10	2/0	2	2
Vydate (see Oxamyl)								
Xylenes, mixed	1330207	D	-	60,000	40,000	10,000/ 10,000	40,000	40,000

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Chemical INORGANICS	CAS#	Standards and Health Advisories						Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA (Child) (ug/L)	MCL/MCLG (ug/L)	URTH -STAR- Level (ug/L)	
Ammonia	7664417	D	-	-	-	-	-	34,000 (taste)
Antimony	7440360	D	-	15	15	6/3	-	15
Arsenic	7440382	A	2	-	-	50/-	-	50
Asbestos > 10 µm	1332214	A	700 MFL	-	-	7MFL/7MFL	70MFL	70MFL
Barium	7440393	D	D	5,000	5,000	2,000/2,000	5,000	5,000
Beryllium	7440417	B2	0.8	200	4,000	1/0	-	1
Boron	7440428	D	-	3,000	900	-	-	900
Cadmium	7440439	D	-	20	5	5/5	5	5
Chloramines	10599903	D	-	3,300	1,000	-	-	1,000
Chromium III (see Chromium, total)	16065831							

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Chemical INORGANICS	CAS#	Standards and Health Advisories						Superfund Removal Action Level (ug/L)
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer- term HA (Child) (ug/L)	MCL/MCLG (ug/L)	URTH -STAR- Level (ug/L)	
Chromium VI (see Chromium, total)	18540299							
Chromium, total	-	D	-	200	200	100/100	200	200
Copper	7440508	D	-	-	-	treat/1,300	1,300	1,300
Cyanide	57125	D	-	800	200	200/200	-	200
Fluoride	16984488	-	-	-	-	4,000/4,000	5,000	5,000
Lead at tap	7439921	B2	-	-	-	treat/0	30	30
Manganese	7439965	D	-	200	-	-/200	-	200
Mercury	7439976	D	-	10	-	2/2	10	10
Molybdenum	7439987	D	-	200	10	-	-	10
Nickel	7440020	D	-	600	500	100/100	-	500
Nitrate	14797558	-	-	56,000	10,000	10,000/10,000	10,000	10,000

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Chemical INORGANICS	CAS#	Standards and Health Advisories						Superfund
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer-term HA (Child) (ug/L)	MCL/MCLG (ug/L)	URTH-STAR-Level (ug/L)	Removal Action Level (ug/L)
Nitrite	14797650	-	-	5,600	1,000	1,000/1,000	1,000	1,000
Nitrate + Nitrite	-	-	-	-	-	10,000/10,000	10,000	10,000
Selenium	7782492	-	-	200	-	50/50	200	200
Silver	7440224	D	-	200	200	-	-	100
Strontium	7440246	D	-	90,000	25,000	-	-	25,000
Sulfate	7757826	-	-	-	-	400,000 or 500,000, depending on treat/same	-	500,000
Thallium	7440280	-	-	2	7	2/0.5	-	2
Vanadium	7440622	D	-	110	30	-	-	30
White phosphorus	772314	D	-	0.5	-	-	-	0.5

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Chemical INORGANICS	CAS#	Standards and Health Advisories						Superfund
		Cancer Group	10 ⁻⁴ Cancer Risk (ug/L)	DWEL (ug/L)	Longer-term HA (Child) (ug/L)	MCL/MCLG (ug/L)	URTH-STAR-Level (ug/L)	Removal Action Level (ug/L)
Zinc	7440666	D	-	11,000	3,000	-	-	3,000
Zinc chloride (measured as Zinc)	-	D	-	11,000	3,000	-	-	3,000

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CAS #	Chemical Abstract Number
DWEL	Drinking Water Equivalent Level; calculated by multiplying the oral RfD by 70 kilograms (adult body weight) and dividing by the average volume of water (2 liters) consumed per day
Longer-term HA (Child)	Drinking Water Health Advisory for 10 kilogram child consuming 1 liter of water per day for up to 7 years
MCL	Maximum Contaminant Level (National Primary Drinking Water Standard)
MCLG	Maximum Contaminant Level Goal
MFL	Million Fibers per Liter
treat	MCL is based on the capability of the treatment technology
URTH-STAR	Short-term Risk Level (STAR) recommended for an Unreasonable Risk to Health (URTH) under the Safe Drinking Water Act (SDWA)